AO 120 (Rev. 08/10)

TO:	Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court for the Eastern District of Texas, Marshall Division on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:24-cv-00133	2/23/2024	for the Eastern District of Texas, Marshall Division

PLAINTIFF	DEFENDANT
Avant Location Technologies LLC	Samsung Electronics Co., Ltd. an Samsung Electronics America, Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	8,738040	5/27/2014	Avant Location Technologies LLC
2	10,009,720	6/26/2018	Avant Location Technologies LLC
3	9,042,910	5/26/2015	Avant Location Technologies LLC
4	8,934,922	1/13/2015	Avant Location Technologies LLC
5	9,119,030	8/25/2015	Avant Location Technologies LLC

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/250,517	05/26/2015	9042910	122358-363771	1071

26694 7590 05/06/2015

VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

AFIRMA CONSULTING & TECHNOLOGIES, S.L., Madrid, SPAIN, Assignee (with 37 CFR 1.172 Interest);
CARLOS A. PEREZ LAFUENTE, Madrid, SPAIN;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/250,517	04/11/2014	2643	1220	122358-363771	12	2

CONFIRMATION NO. 1071

CORRECTED FILING RECEIPT

26694
VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998



Date Mailed: 04/24/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

CARLOS A. PEREZ LAFUENTE, Madrid, SPAIN;

Applicant(s)

AFIRMA CONSULTING & TECHNOLOGIES, S.L., Madrid, SPAIN

Assignment For Published Patent Application

AFIRMA CONSULTING & TECHNOLOGIES, S.L., Madrid, SPAIN

Power of Attorney: The patent practitioners associated with Customer Number 26694

Domestic Priority data as claimed by applicant

This application is a CON of 12/294,641 04/12/2010 PAT 8738040
which is a 371 of PCT/EP2007/052939 03/27/2007

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
EUROPEAN PATENT OFFICE (EPO) 06111804.8 03/28/2006

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 04/30/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/250,517**
Projected Publication Date: Not Applicable

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

Preliminary Class

455

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Carlos A. Perez Lafuente	Art Unit: 2643
Application No: 14/250,517	Examiner: Jean Chang
Confirmation No: 1071	
Filed: April 11, 2014	Atty. Docket No: 122358-363771
For: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	Customer No: 26694 PATENT TRADEMARK OFFICE

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

In response to the Notice to File Corrected Application papers mailed April 15, 2015, Applicants respectfully submit the attached Corrected Application Data Sheet indicating the relationship to the prior U.S. non-provisional application (12/294,641), after payment of Issue Fee.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 22-0261, under Order No. 122358-363771.

Dated: April 22, 2015

Respectfully submitted,

By: /David M. Klecyngier/
Jeffri A. Kaminski
Registration No.: 42,709
David M. Klecyngier
Registration No.: 72,632
VENABLE LLP
P.O. Box 34385
Washington, DC 20043-9998
(202) 344-4000
(202) 344-8300 (Fax)
Attorney/Agent For Applicant

Corrected Application Data Sheet

Inventor Information

Inventor Number::	1
Name Prefix::	Mr.
Given Name::	Carlos
Middle Name::	A.
Family Name::	Perez Lafuente
City of Residence::	Madrid
Country of Residence::	Spain
Street of mailing address::	C/ Julio Palacios, 13, Esc. Izq. 8 E
City of mailing address::	Madrid
Country of mailing address::	Spain
Postal or Zip Code of mailing address::	28029

Correspondence Information

Correspondence Customer Number::	26694
E-Mail address::	jakaminski@venable.com
E-Mail address::	ptomail@venable.com

Application Information

Application Number::	14/250,517
Filing Date::	04/11/14
Application Type::	Regular
Subject Matter::	Utility
CD-ROM or CD-R?::	None
Sequence submission?::	None
Computer Readable Form (CRF)?::	No
Title::	METHOD AND SYSTEM FOR MONITORING A MOBILE

	STATION PRESENCE IN A SPECIAL AREA
Attorney Docket Number::	122358-363771
Request for Early Publication?::	No
Request for Non-Publication?::	No
Total Drawing Sheets::	7
Small Entity?::	Yes
Petition included?::	No

Representative Information

Representative Customer Number:: 26694

Domestic Priority Information

Application::	Continuity Type::	Parent Application::	Parent Filing Date::
This Application is a	~~National Stage of~~ Continuation of	~~PCT/EP2007/052939~~ 12/294,641	~~03/27/2007~~ 04/12/2010
~~PCT/EP2007/052939~~ 12/294,641	~~An application claiming the benefit under 35 USC 119(e)~~ US National Phase	~~12/294,641~~ PCT/EP2007/052939	~~04/12/2010~~ 03/27/2007

Foreign Priority Information

Country::	Application number::	Filing Date::	Priority Claimed::
Europe	06111804. 8	03/28/ 2006	Yes

Applicant Information

Applicant Number::	1
Applicant Type::	Assignee
Organization Name::	AFIRMA CONSULTING & TECHNOLOGIES, S.L.
Street of mailing address::	C/Julio Palacio 13, 8
City of mailing address::	Madrid
Country of mailing address::	Spain
Postal or Zip Code of mailing address::	28029

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.			
Signature	/Jeffri A. Kaminski/	Date	April 22, 2015
Name (Print/Type)	Jeffri A. Kaminski	Registration No. (Attorney/Agent)	42,709

Electronic Acknowledgement Receipt

EFS ID:	22138583
Application Number:	14250517
International Application Number:	
Confirmation Number:	1071
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Customer Number:	26694
Filer:	David M. Klecyngier/Karyn Featherston
Filer Authorized By:	David M. Klecyngier
Attorney Docket Number:	122358-363771
Receipt Date:	22-APR-2015
Filing Date:	11-APR-2014
Time Stamp:	16:15:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	14250517-Response-to-Notice-to-File-Corrected-Application-Papers.pdf	106293 b630dc79413363cb3de4020e206e9f99f4bb4187	no	1
Warnings:					
Information:					

2	Application Data Sheet	14250517-Corrected-Application-Data-Sheet.pdf	80167 16124fab2f49cc7bcbcdb2a9c26d48bfb802e567	no	3

Warnings:	
Information:	
This is not an USPTO supplied ADS fillable form	
Total Files Size (in bytes):	186460

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771	1071

26694 7590 04/15/2015

VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER	
CHANG, JEAN	

ART UNIT	PAPER NUMBER
2643	

NOTIFICATION DATE	DELIVERY MODE
04/15/2015	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):

PTOMail@Venable.com
lahill@venable.com
ksfeatherston@venable.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Application No. : 14250517
Applicant : Lafuente
Filing Date : 04/11/2014
Date Mailed : 04/15/2015

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given 1 month from the mail date of this Notice, or the time remaining from the Notice of Allowance and Fee(s) Due, whichever is longer, within which to respond.

The application is not in compliance with 37 CFR 1.78, as indicated in the attachment. The consequences of failure to respond within the above-identified time period are set forth in the attachment.

Even if the Office has recognized a benefit claim and has entered it into the Office's database and included it on applicant's filing receipt, the benefit claim is not a proper benefit claim unless the reference in compliance with 37 CFR 1.78 is included, depending upon the application's filing date and as indicated in the attachment, in an application data sheet or in the first sentence(s) of the specification and all other requirements are met.

This period for reply is NOT extendable under 37 CFR 1.136(a).

See attachment.

A copy of this notice MUST be returned with the reply. Please address response to "Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450".

/Anthony McPhail/
Publication Branch
Office of Data Management
(571) 272-4200

Application No. 14250517

APPLICATION FILED ON OR AFTER MARCH 16, 2013,
NOT IN COMPLIANCE WITH 37 CFR 1.78

[X] The 37 CFR 1.78(c)(2) reference on the application data sheet does not indicate the relationship (continuation, division, continuation-in-part) to the prior U.S. nonprovisional application or international application designating the U.S. See document coded ADS dated 06/06/2014, listing application number(s) 12/294,641.

[ ] The 37 CFR 1.78(c)(2) reference on the application data sheet does not provide the U.S. nonprovisional application number (series code and serial number) or, with respect to an international PCT application designating the U.S., it provides the international application number or international filing date but not both. See document coded dated , in which the following is missing: .

[ ] The 37 CFR 1.78(c)(2) reference on the application data sheet shows an incorrect, incomplete, or illegible U.S. nonprovisional application number, international PCT application number, or international PCT filing date. See document coded dated , in which the following error was made: .

[ ] The 37 CFR 1.78(c)(2) reference to the prior U.S. nonprovisional application or international application designating the U.S. is not present on an application data sheet, thus removing the validating link under 35 U.S.C. 119(a)-(d) to a prior foreign application or under 35 U.S.C. 119(e) to a prior U.S. provisional application.

[ ] The 37 CFR 1.78(c)(2) reference to the prior U.S. nonprovisional application or international application designating the U.S. is not present on an application data sheet.

[ ] The 37 CFR 1.78(a)(3) reference to the prior U.S. provisional application is not present on an application data sheet.

[ ] The 37 CFR 1.78(a)(3) reference to the prior U.S. provisional application on an application data sheet does not provide the provisional application number (series code and serial number). See document coded dated , in which the following is missing: .

[ ] The 37 CFR 1.78(a)(3) reference to the prior U.S. provisional application on an application data sheet shows an incorrect, incomplete, or illegible U.S. provisional application number. See document coded dated , in which the following error was made: .

[ ] Other: .

HOW TO RESPOND

A proper response to this notice would include: (1) a corrected Application Data Sheet (ADS) pursuant to 37 CFR 1.76(c) which provides the benefit information from the attached filing receipt which would make the benefit information comply with 37 CFR 1.78(c)(2) or 37 CFR 1.78(a)(3) or (2) a petition filed pursuant to the provisions of 37 CFR 1.78(b) or 37 CFR 1.78(d) if the benefit information from the attached filing receipt does not accurately reflect the benefits under 35 U.S.C. 119(e), 120, 121 or 365(c) as claimed by applicant (a grantable petition would include a corrected ADS as required by 37 CFR 1.78(b)(1) or 37 CFR 1.78(d)(1)).

WARNING: If Applicant fails to timely submit a proper response, the benefit information will be deleted and the patent will be printed without the benefit information present.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

VENABLE LLP
P.O. Box 34385
Washington, DC 20043-9998

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/250,517	04/11/2014	Carlos A. Perez Lafuente	122358-363771	1071

TITLE OF INVENTION: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$480.00			$480.00	06/30/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHANG, JEAN	2643	455-456100

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Venable LLP
2 Jeffri A. Kaminski
3 David M. Klecyngier

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: AFIRMA CONSULTING & TECHNOLOGIES, S.L.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Madrid, Spain

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 22-0261 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ☐ Applicant certifying micro entity status. See 37 CFR 1.29 — NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ☐ Applicant asserting small entity status. See 37 CFR 1.27 — NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ☐ Applicant changing to regular undiscounted fee status. — NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Jeffri A. Kaminski/ Date April 3, 2015

Typed or printed name Jeffri A. Kaminski Registration No. 42,709

Electronic Patent Application Fee Transmittal

Application Number:	14250517
Filing Date:	11-Apr-2014
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Filer:	David M. Klecyngier/Karyn Featherston
Attorney Docket Number:	122358-363771

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Utility Appl Issue Fee	2501	1	480	480
Publ. Fee- Early, Voluntary, or Normal	1504	1	0	0
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**480**

Electronic Acknowledgement Receipt	
EFS ID:	21963165
Application Number:	14250517
International Application Number:	
Confirmation Number:	1071
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Customer Number:	26694
Filer:	David M. Klecyngier/Karyn Featherston
Filer Authorized By:	David M. Klecyngier
Attorney Docket Number:	122358-363771
Receipt Date:	03-APR-2015
Filing Date:	11-APR-2014
Time Stamp:	11:37:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$480
RAM confirmation Number	8946
Deposit Account	220261
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	14250517-Issue-Fee-Transmittal-Part-B.pdf	128222 6fa2cf5531dadabf4e7eacacc6ee7e259bbd1219	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32489 98d3a48f67289b2f9c907da76936901c189f04da	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	160711		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

26694 7590 03/30/2015

VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER
CHANG, JEAN

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 03/30/2015

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771	1071

TITLE OF INVENTION: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$480	$0	$0	$480	06/30/2015

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

26694 7590 03/30/2015
VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771	1071

TITLE OF INVENTION: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$480	$0	$0	$480	06/30/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHANG, JEAN	2643	455-456100

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): (**Please first reapply any previously paid issue fee shown above**)
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29 — NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27 — NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ❑ Applicant changing to regular undiscounted fee status. — NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771	1071

26694 7590 03/30/2015
VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER	
CHANG, JEAN	
ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 03/30/2015

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 14/250,517	Applicant(s) PEREZ LAFUENTE, CARLOS A.	
	Examiner JEAN CHANG	Art Unit 2643	AIA (First Inventor to File) Status No

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *2/18/2015*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ 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.
3. ☒ The allowed claim(s) is/are *13-17 and 19-27*. As a result of the allowed claim(s), 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 or send an inquiry to PPHfeedback@uspto.gov .
4. ☒ 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)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

DETAILED ACTION

1. The present application is being examined under the pre-AIA first to invent provisions.

Response to Amendment

2. The applicant's amendments, filed on 2/18/2015, have been considered.

Terminal Disclaimer

3. The terminal disclaimer filed on 3/10/2015 has been approved and recorded.

Allowable Subject Matter

4. Claims 13-17 and 19-27 are allowable.

Reasons for allowance

5. The following is an examiner's statement of reasons for allowance:

Applicant's claimed invention distinguished over the prior art for the following reasons. The claims are allowable over the prior art of record because none of the references, either alone or in combination, discloses or renders obvious a method associated with the use of a mobile station and at least first and second radio communication defining devices that respectively transmit first and second distinctive defining signals that at least partly define a special area by a sum or intersection of their coverage, the first and second distinctive defining signals respectively including first and second data, the method comprising the steps of determining in the mobile station if the mobile station is receiving one or both of the first and second distinctive defining signals and determining in the mobile station, based on a previously obtained at least portion of one or both of

the first and second data, whether or not the mobile station is present in the special area; and sending from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station's presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, and

a method associated with a mobile station receiving first and second distinctive defining signals respectively from first and second radio communication defining devices, the first and second distinctive defining signals at least partly define first and second special areas, respectively, by their coverage, each of the first and second distinctive defining signals respectively including first and second data, the method comprising the steps of receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the first data, whether the one or more defining signals are one or more first distinctive defining signals and to determine whether or not the mobile station is present in the first special area, receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the second data, whether the one or more defining signals are one or more second distinctive defining signals and to determine whether or not the mobile station is present in the second special area, sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the first special area, a first updating signal

to one or more servers of a first provider of presence related services about the mobile station's presence in the first special area, the sending of the first updating signal being uncorrelated to any mobile station phone call establishment; sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the second special area, a second updating signal to one or more servers of a second provider of presence related services, different than the first provider of presence related services, about the mobile station's presence in the second special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Chang whose telephone number is (571) 270-7979. The examiner can normally be reached on Mon-Thursday from 9:00-5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jinsong Hu can be reached on (571) 272-3965. 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).

/Jean Chang/

Examiner, Art Unit 2643

/JINSONG HU/

Supervisory Patent Examiner, Art Unit 2643

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 1071

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
14/250,517	04/11/2014 RULE	455	2643	122358-363771

APPLICANTS
AFIRMA CONSULTING & TECHNOLOGIES, S.L., Madrid, SPAIN, Assignee (with 37 CFR 1.172 Interest);

INVENTORS
CARLOS A. PEREZ LAFUENTE, Madrid, SPAIN;

**** CONTINUING DATA **********************
This application is a CON of 12/294,641 04/12/2010 PAT 8738040

**** FOREIGN APPLICATIONS **********************
EUROPEAN PATENT OFFICE (EPO) 06111804.8 03/28/2006

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
04/30/2014

Foreign Priority claimed ☑ Yes ☐ No 35 USC 119(a-d) conditions met ☑ Yes ☐ No Verified and Acknowledged /JEAN CHANG/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		SPAIN	7	12	2

ADDRESS
VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998
UNITED STATES

TITLE
METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

FILING FEE RECEIVED		
1220	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14250517	PEREZ LAFUENTE, CARLOS A.
	Examiner	Art Unit
	JEAN CHANG	2643

CPC- SEARCHED		
Symbol	Date	Examiner
H04W 4/02	10/15/2014	jc

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
455	456.1, 456.4, 432.2, 433, 406, 458, 414.1, 446	10/15/2014	jc
455	456.1, 456.4, 432.2, 433, 406, 458, 414.1, 446	2/27/2015	jc

SEARCH NOTES		
Search Notes	Date	Examiner
inventor search and text search on East databaases for mobile station identifying sending signal presence special service area enter leaving in outside first second	10/15/2014	jc
update inventor search and text search on East	2/27/2015	jc

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
455	456.1, 456.4, 432.2, 433, 406, 458, 414.1, 446	10/15/2014	jc
455	456.1, 456.4, 432.2, 433, 406, 458, 414.1, 446	2/27/2015	jc

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14250517	PEREZ LAFUENTE, CARLOS A.
	Examiner	**Art Unit**
	JEAN CHANG	2643

CPC							
Symbol						**Type**	**Version**
H04W		4	/	02		F	2013-01-01
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CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
			/					
			/					

/JEAN CHANG/ Examiner.Art Unit 2643	02/27/2015	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	14	
/JINSONG HU/ Supervisory Patent Examiner.Art Unit 2643	03/20/2015	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	13	6

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14250517	PEREZ LAFUENTE, CARLOS A.
	Examiner	**Art Unit**
	JEAN CHANG	2643

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION										
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED					
455	456.1	H	0	4	W	4 / 02 (2009.01.01)						

CROSS REFERENCE(S)					
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
455	456.4	433	432.2		

/JEAN CHANG/ Examiner.Art Unit 2643	02/27/2015	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	14	
/JINSONG HU/ Supervisory Patent Examiner.Art Unit 2643	03/20/2015	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	13	6

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14250517	PEREZ LAFUENTE, CARLOS A.
	Examiner	**Art Unit**
	JEAN CHANG	2643

☐ Claims renumbered in the same order as presented by applicant ☒ CPA ☒ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
-	1	5	17												
-	2	-	18												
-	3	6	19												
-	4	7	20												
--	5	8	21												
-	6	9	22												
-	7	10	23												
-	8	11	24												
-	9	12	25												
-	10	13	26												
-	11	14	27												
-	12														
1	13														
2	14														
3	15														
4	16														

/JEAN CHANG/ Examiner.Art Unit 2643	02/27/2015	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	14	
/JINSONG HU/ Supervisory Patent Examiner.Art Unit 2643	03/20/2015	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	13	6

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L5	2	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (sum or intersect$) same (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/02/27 11:36
L6	43	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/02/27 11:36
L7	39304	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/02/27 11:37
S1	29	"6334052"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/26 17:50
S2	5	"6785536"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/26 17:55
S3	20	"6826414"	US-PGPUB; USPAT; USOCR;	ADJ	ON	2011/09/26 17:56

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S4	4	"20020094801"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 08:40
S5	4	"2000027152"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 08:42
S6	4	"7212804"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 08:44
S7	3	"20080004045"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:17
S8	3	"20030092450"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:20
S9	14589	(special or distint or different or preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:27
S10	2969	(special or distint or different or preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage) same (signal or code or identifier or identification or parameter or flag)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:29
S11	607	(special or distint or different or preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:30
S12	236	(special or distint or different or	US-PGPUB;	ADJ	ON	2011/09/28

		preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP) and monitor	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			09:30
S13	308	(special or distint or different or preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP) and (monitor or presence)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:31
S14	52	(special or distint or different or preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP) and (monitor or presence) and multimedia	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:31
S15	1006	(special or distint or different or preferred or discount) near20 (service or tarrif or rate or billing or charg$3 or zone) near20 (area or coverage) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:44
S16	399	S15 not S11	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:44
S17	16	S16 and special service	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:45
S18	18	S16 and (special or distinct) (service or zone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:45
S19	19	S16 and (special or distinct) (service or zone or area)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:45
S20	313	455/456.4.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	ADJ	ON	2011/09/28 10:48

			IBM_TDB			
S21	6	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:48
S22	1	S20 and S16	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:49
S23	16	"6625442"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:49
S24	20	"6516193"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:52
S25	5	"6785536"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/30 18:40
S26	6	"6920317"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/30 18:42
S27	1182	(special or limited or distint or different or preferred or discount or home) near10 (service or tarrif or rate) near10 (area or coverage or location or zone) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP or device) same (wireless or mobile) and (monitor or presence)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/21 10:39
S28	15	(special or limited or distint or different or preferred or discount or home) near10 (service or tarrif or rate) near10 (area or coverage or location or zone) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP or device) same (wireless or mobile) and (monitor or presence) near10 (mobile or wireless)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/21 10:44

		(station or device or phone) near10 (determin$4 or recogniz$4 or realiz$3 or check$3)				
S29	368	455/456.4.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/21 11:35
S30	6	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/21 11:36
S31	15	(special or limited or distint or different or preferred or discount or home) near10 (service or tarrif or rate) near10 (area or coverage or location or zone) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP or device) same (wireless or mobile) and (monitor or presence) near10 (mobile or wireless) (station or device or phone) near10 (determin$4 or recogniz$4 or realiz$3 or check$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/21 11:36
S32	0	S31 and S29	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/21 11:36
S33	18	(special or limited or distint or different or preferred or discount or home) near10 (service or tarrif or rate) near10 (area or coverage or location or zone) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP or device) same (wireless or mobile) and (monitor or presence) near10 (mobile or wireless) (station or device or phone) near10 (determin$4 or recogniz$4 or realiz$3 or check$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/25 01:08
S34	6	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/25 01:10
S35	1	S33 and S34	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/25 01:10

S36	1	"12294641"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/25 18:36
S37	771	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3) same ((base station) or cell or AP or device)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 12:34
S38	211	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near5 ((service or tarrif or rate) or (area or coverage or location or zone)) near10 (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3) near10 ((base station) or cell or AP or device or network)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 12:38
S39	150	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near5 ((service or tarrif or rate) or (area or coverage or location or zone)) near10 (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3) near10 ((base station) or cell or AP or device or network)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2013/06/01 12:49
S40	1	"12294641"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 13:53
S41	30	(mobile or wireless or electronic or	US-PGPUB;	ADJ	OFF	2013/06/01

		communication) (station or device or phone or terminal or equipment) near10 (enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near5 ((service or tarrif or rate) or (area or coverage or location or zone)) near10 (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3) near10 ((base station) or cell or AP or device or network)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			19:14
S42	771	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3) same ((base station) or cell or AP or device)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:20
S43	106	S42 and (location or zone or area) service	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:20
S44	11	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:29
S45	19	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:30
S46	81	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or	US-PGPUB; USPAT; USOCR; FPRS;	ADJ	ON	2013/06/01 19:36

		leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone)) and (LBS or (location near6 service))	EPO; JPO; DERWENT; IBM_TDB			
S47	81	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone)) and (LBS or ((location or geo$6) near6 service))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:36
S48	128	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:59
S49	39	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone)) same (report$4 or send$4 or transmi$5 or notify$6)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 20:01
S50	128	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 20:05
S51	89	S50 not S49	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 20:07
S52	3	"2008171531"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 22:55
S53	2	"20080171531"	US-PGPUB; USPAT; USOCR; FPRS;	ADJ	ON	2013/06/01 22:55

			EPO; JPO; DERWENT; IBM_TDB			
S54	29	(US-20020094801-$ or US-20080004045-$ or US-20030092450-$ or US-20080261604-$ or US-20050148297-$ or US-20050075124-$ or US-20040224682-$ or US-20040192267-$ or US-20100167725-$ or US-20080171531-$).did. or (US-6334052-$ or US-6625442-$ or US-6785536-$ or US-6826414-$ or US-7778652-$ or US-7142869-$ or US-7171189-$ or US-6836653-$ or US-6516193-$ or US-6671506-$ or US-7634255-$ or US-7266366-$ or US-6920317-$ or US-6516190-$).did. or (WO-2007009297-$).did. or (WO-0027152-$ or WO-9858505-$ or WO-2007014714-$ or JP-2000050335-$).did.	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2013/06/01 23:06
S55	9	S54 and (enter$4 or exit$4 or leav$4) same (zone or (service area))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 23:07
S56	3822	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6 or report$5 or notify$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 23:12
S57	1223	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6 or report$5 or notify$5) and (zone or (service area) or LSA)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 23:14
S58	197	S57 and (enter$4 or exit$4) near10 (zone or (service area))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 23:16
S59	6	"lafuente, carlos".inv.	US-PGPUB; USPAT;	ADJ	ON	2013/06/02 23:49

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S60	22527	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/02 23:51
S61	1222	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6 or report$5 or notify$5) and (zone or (service area) or LSA)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/02 23:52
S62	197	S61 and (enter$4 or exit$4) near10 (zone or (service area))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/02 23:52
S63	0	S62 and S59	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/02 23:52
S64	59	S62 and S60	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/02 23:52
S65	1	"12294641"	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2014/01/06 23:30
S66	1	S65 and updating signal	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2014/01/06 23:30
S67	1	S65 and updating signal same (period$5 or enter$4 or exit$4)	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2014/01/06 23:46
S68	1	S65 and updating signal and (period$5 or enter$4 or exit$4)	US-PGPUB; USPAT; EPO;	ADJ	ON	2014/01/06 23:50

			DERWENT			
S69	1	S65 and updating signal and (periodically or enter$4 or exit$4)	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2014/01/07 00:31
S70	1	"12294641"	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2014/01/20 18:22
S71	24	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:24
S72	30466	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:25
S73	987	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near15 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) and (zone or (service area) or LSA)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:27
S74	247	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near15 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) same (memory or stor$4) near10 (data or check$4 or identifier or identification)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:32
S75	42	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near15 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:34

		zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) same (memory or stor$4) near10 (data or check$4 or identifier or identification)).clm.				
S76	1	S74 and S71	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:34
S77	60	S74 and S72	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:34
S78	48	S77 not S75	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 20:05
S79	13	S78 and (special or limited or preferred or discount$4) near5 (area or zone or service)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 20:06
S80	2	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near15 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near15 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near5 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) (area or coverage or location or zone))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:05
S81	19	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:13

		coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))				
S82	24	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:27
S83	30466	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:27
S84	1	S81 and S82	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:27
S85	6	S81 and S83	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:27
S86	4	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:30
S93	3	"12294641"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	ADJ	ON	2014/09/19 13:31

			IBM_TDB			
S94	1	"14250517"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/09/19 13:33
S95	4	"8723664"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:31
S96	0	wo0103372	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:36
S97	0	wo01003372	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:37
S98	28	"200103372"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:37
S99	61	"0103372"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:37
S100	64	"6334052"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:40
S101	81	"6826414"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:59
S102	1	"14250517"	US-PGPUB; USPAT; USOCR; FPRS;	ADJ	ON	2014/10/15 18:22

			EPO; JPO; DERWENT; IBM_TDB			
S103	1	S102 and outside near10 special area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:22
S104	1	S102 and send$4 near10 updat$3 signal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:25
S105	0	S102 and updat$4 near5 signal same presence and periodically and (enter$4 or exit$4) and remain$4 near10 (in or outside) near5 area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:29
S106	0	S102 and updat$4 near5 signal same presence and periodically and (enter$4 or exit$4) and remain$4 near10 (in or outside) area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:30
S107	1	S102 and updat$4 near5 signal same presence and periodically and (enter$4 or exit$4) and (in or outside) near10 area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:30
S108	1	S102 and updat$4 near5 signal same presence and periodically and (enter$4 or exit$4) and (outside) near10 area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:56
S109	33	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:16
S110	6	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:29

		((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near20 (periodically or enter$4 or exit$4 or leav$4 or presence or outside) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.				
S111	57220	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls. or (H04W64/00).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:30
S112	27	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near20 (periodically or enter$4 or exit$4 or leav$4 or presence or outside) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:30
S113	3	S112 and S109	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:32
S114	9	S112 and S111	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:32
S122	2	"14250517"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/30 18:54
S123	0	S122 and update same outside same special area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	ADJ	ON	2014/10/30 18:55

			DERWENT; IBM_TDB			
S124	2	S122 and outside same special area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/30 18:55
S125	2	S122 and updat$4 signal and outside same special area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/30 19:11
S126	2	S122 and outside same special area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/30 19:26
S127	2	S122 and outside and updat$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/30 19:29
S128	2	S122 and (outside or out) and (send$4 or sent) near10 updat$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/30 19:42
S129	3	"14250517"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/01/28 15:50
S130	3	S129 and special area and distinctive signal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2015/01/28 15:51

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	8	"lafuente, carlos".inv.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/02/27 11:19

L2	29263	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/02/27 11:19
L3	7	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/02/27 11:22
L4	0	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (sum or intersect$) same (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.	US-PGPUB; USPAT; UPAD	ADJ	ON	2015/02/27 11:36
S87	16	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/01/20 23:33
S88	4	"lafuente, carlos".inv.	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/01/20 23:33
S89	25021	455/456.4.ccls. or 455/555.ccls. or	US-	ADJ	ON	2014/01/20

		455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls.	PGPUB; USPAT; UPAD			23:33
S90	4	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/01/20 23:33
S91	1	S87 and S88	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/01/20 23:34
S92	6	S87 and S89	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/01/20 23:34
S115	6	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence or outside) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:18
S116	6	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near20 (periodically or enter$4 or exit$4 or leav$4 or presence or outside) near10 (special or limited or distinct$5 or preferred or discount	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:21

		or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.				
S117	6	"lafuente, carlos".inv.	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:26
S118	32084	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls. or (H04W64/00).CPC.	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:27
S119	5	S118 and S116	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:27
S120	3	S118 and S117	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:28
S121	3	S116 and S117	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:28

2/27/2015 11:43:32 AM
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771

CONFIRMATION NO. 1071

26694
VENABLE LLP
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WASHINGTON, DC 20043-9998

PUBLICATION NOTICE

OC00000074084097

Title:METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

Publication No.US-2015-0080015-A2
Publication Date:03/19/2015

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

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In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

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Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	14/250,517	PEREZ LAFUENTE, CARLOS A.	

Document Code - DISQ	Internal Document – DO NOT MAIL

TERMINAL DISCLAIMER	☒ APPROVED	☐ DISAPPROVED
Date Filed : 10 MAR 2015	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:
JAB

U.S. Patent and Trademark Office

PTO/AIA/26 (04-14)
Approved for use through 07/31/2016. OMB 0651-0031
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TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 122358-363771

In re Application of: Carlos A. Perez Lafuente

Application No.: 14/250,517-Conf. #1071

Filed: April 11, 2014

For: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

The applicant, AFIRMA CONSULTING & TECHNOLOGIES, S.L., owner of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 8,738,040 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The applicant hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the applicant does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

expires for failure to pay a maintenance fee;
is held unenforceable;
is found invalid by a court of competent jurisdiction;
is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
has all claims canceled by a reexamination certificate;
is reissued; or
is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ The undersigned is the applicant. If the applicant is an assignee, the undersigned is authorized to act on behalf of the assignee.

I hereby acknowledge that any willful false statements made are punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 42,709

/Jeffri A. Kaminski/ — Signature
March 10, 2015 — Date

Jeffri A. Kaminski — Typed or printed name

Attorney for Applicant(s) — Title
(202) 344-4000 — Telephone Number

☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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9294140

Electronic Patent Application Fee Transmittal

Application Number:	14250517
Filing Date:	11-Apr-2014
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Filer:	Jeffri Kaminski/Karyn Featherston
Attorney Docket Number:	122358-363771

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Statutory or Terminal Disclaimer	1814	1	160	160
		Total in USD ($)		**160**

Electronic Acknowledgement Receipt	
EFS ID:	21729498
Application Number:	14250517
International Application Number:	
Confirmation Number:	1071
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Customer Number:	26694
Filer:	Jeffri Kaminski/Karyn Featherston
Filer Authorized By:	Jeffri Kaminski
Attorney Docket Number:	122358-363771
Receipt Date:	10-MAR-2015
Filing Date:	11-APR-2014
Time Stamp:	16:56:11
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$160
RAM confirmation Number	3893
Deposit Account	220261
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer Filed	14250517-Terminal-Disclaimer.pdf	83994 6bd84e6695124c3d2290d9caa9e46a9e6897c6e9	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30647 d5b122abe1b3e774dd8720578647 99f8090e9d7a	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	114641		

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National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Carlos A. Perez Lafuente

Art Unit: 2643

Application No: 14/250,517

Examiner: Jean Chang

Confirmation No: 1071

Filed: April 11, 2014

Atty. Docket No: 122358-363771

Customer No:
26694
PATENT & TRADEMARK OFFICE

For: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

RESPONSE TO NON-FINAL OFFICE ACTION

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

INTRODUCTORY COMMENTS

This communication is in response to the non-final Office Action dated November 19, 2014.

Amendments to the Claims are reflected in the listing of claims which begins on page **2** of this paper.

Remarks/Arguments begin on page **9** of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-12 (Previously Canceled)

13. (Currently Amended) A method associated with the use of a mobile station and at least ~~one~~ first and second radio communication defining devices that respectively transmit[s] [a]first and second distinctive defining signals that at least partly define[s] a special area by ~~its~~ a sum or intersection of their coverage, the first and second distinctive defining signals respectively including first and second data, the method comprising:

determining in the mobile station if the mobile station is receiving ~~and processing~~ one or ~~more~~ both of the first and second distinctive defining signals ~~in the mobile station to determine~~ and determining in the mobile station, based on a previously obtained at least portion of one or both of the first and second data, ~~whether the one or more defining signals are one or more distinctive defining signals and to determine~~ whether or not the mobile station is present in the special area; and

sending from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station's presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the special area, and (iii) when the mobile station remains in the special area ~~and (iv) when the mobile station remains outside the special area~~.

14. (Currently Amended) [[A]] The method according to claim 13, wherein the

updating signal comprises the result of a previous determination performed by the mobile station about the mobile station's presence in the special area.

15. (Previously Presented) [[A]] The method according to claim 13, wherein the frequency of the updating signal is different from the frequency of the distinctive defining signal.

16. (Currently Amended) [[A]] The method according to claim 13, wherein the mobile station enables or disables one or more functions related to a presence related service upon receiving enabling or disabling instructions from the provider of presence related services.

17. (Currently Amended) A non-transitory computer readable medium storing computer readable program code for causing a processor of a mobile station to perform a method associated with the use of at least ~~one~~ first and second radio communication defining devices that respectively transmit[s] [a]first and second distinctive defining signals that at least partly define[s] a special area by ~~its~~ a sum or intersection of their coverage, the first and second distinctive defining signals respectively including first and second data, the method comprising:

determining in the mobile station if the mobile station is receiving ~~and processing~~ one or ~~more~~ both of the first and second distinctive defining signals ~~in the mobile station to determine~~ and determining in the mobile station, based on a previously obtained at least portion of one or both of the first and second data, ~~whether the one or more defining signals are one or more distinctive defining signals and to determine~~ whether or not the mobile station is present in the special area; and

sending from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station's presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the

mobile station enters into or exists from the special area, and (iii) when the mobile station remains in the special area ~~and (iv) when the mobile station remains outside the special area~~.

18. (Cancelled)

19. (Currently Amended) [[A]] The non-transitory computer readable medium storing computer readable program code according to claim 17 that further causes the processor to enable or disable one or more functions in the mobile station related to a presence related service upon the mobile station receiving enabling or disabling instructions from the provider of presence related services.

20. (Currently Amended) A mobile station capable of receiving [a] first and second distinctive defining signals respectively from first and second [a] radio communication defining devices, the first and second distinctive defining signals ~~that~~ at least partly ~~defines~~ defining a special area by ~~its~~ a sum or intersection of their coverage, the first and second distinctive defining signals respectively including first and second data, the mobile station comprising:

an electronic storage medium that stores at least a portion of the first and second data; and

a processor adapted to process ~~one or more~~ the first and second distinctive defining signals to determine, based on ~~the~~ at least portion of one or both of the first and second data, ~~whether the one or more defining signals are one or more distinctive defining signals and to determine~~ whether or not the mobile station is present in the special area, the processor further adapted to send from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station's presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at

least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the special area, and (iii) when the mobile station remains in the special area ~~and (iv) when the mobile station remains outside the special area~~.

21. (Currently Amended) [[A]] The mobile station according to claim 20, wherein the processor is adapted to enable or disable one or more functions related to a presence related service upon the mobile station receiving enabling or disabling instructions from the provider of presence related services.

22. (Currently Amended) A method associated with a mobile station receiving first and second distinctive defining signals respectively from first and second radio communication defining devices, the first and second distinctive defining signals at least partly define first and second special areas, respectively, by their coverage, each of the first and second distinctive defining signals respectively including first and second data, the method comprising:

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the first data, whether the one or more defining signals are one or more first distinctive defining signals and to determine whether or not the mobile station is present in the first special area,

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the second data, whether the one or more defining signals are one or more second distinctive defining signals and to determine whether or not the mobile station is present in the second special area,

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the first special area, a first updating signal to one or more servers of a first provider of presence related services about the mobile station's presence in the first special area, the sending of the first updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to

when the mobile station enters into or exists from the first special area, and (iii) when the mobile station remains in the first special area ~~and (iv) when the mobile station remains outside the first special area~~; and

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the second special area, a second updating signal to one or more servers of a second provider of presence related services, different than the first provider of presence related services, about the mobile station's presence in the second special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the second updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the second special area, and (iii) when the mobile station remains in the second special area ~~and (iv) when the mobile station remains outside the second special area, the second updating signal being sent from the mobile station while the mobile station is determined to be in both the first special area and the second special area~~

23. (Currently Amended) [[A]] The method according to claim 22, wherein the first updating signal is sent with information related to the result of a previous determination performed by the mobile station about the mobile station's presence in the first special area.

24. (Currently Amended) [[A]] The method according to claim 22, wherein the second updating signal is sent with information related to the result of a previous determination performed by the mobile station about the mobile station's presence in the second special area.

25. (Currently Amended) A non-transitory computer readable medium storing computer readable program code for causing a processor of a mobile station to perform a method associated with the mobile station receiving first and second distinctive defining signals that at least partly define [[a]] first and second special areas, respectively, by their coverage, each of the first and second

distinctive defining signal respectively including first and second data, the method comprising:

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the first data, whether the one or more defining signals are one or more first distinctive defining signals and to determine whether or not the mobile station is present in the first special area,

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the second data, whether the one or more defining signals are one or more second distinctive defining signals and to determine whether or not the mobile station is present in the second special area,

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the first special area, a first updating signal to one or more servers of a first provider of presence related services about the mobile station's presence in the first special area, the sending of the first updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the first special area, and (iii) when the mobile station remains in the first special area ~~and (iv) when the mobile station remains outside the first special area~~; and

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the second special area, a second updating signal to one or more servers of a second provider of presence related services, different than the first provider of presence related services, about the mobile station's presence in the second special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the second updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the second special area, and (iii) when the mobile station remains in the second special area ~~and (iv) when the mobile remains outside the~~

~~second special area, the second updating signal being sent from the mobile station while the mobile station is determined to be in both the first special area and the second special area~~.

26. (Currently Amended) [[A]] The non-transitory computer readable medium storing computer readable program code according to claim 25 that further causes the processor to send the first updating signal with information related to the result of a previous determination performed by the mobile station about the mobile station's presence in the first special area.

27. (Currently Amended) [[A]] The non-transitory computer readable medium storing computer readable program code according to claim 25 that further causes the processor to send the second updating signal with information related to the result of a previous determination performed by the mobile station about the mobile station's presence in the second special area.

REMARKS

Claims 13-27 have been amended. Claim 18 has been cancelled. No claims have been added. Claims 13-17 and 19-27 remain in the application.

Claim Objections

Claims 14-16, 18-19, 21, 23-24 and 26-27 were object to for reciting "A" rather than "The". Each of said claims have been amended to replace "A" with the word "The".

Claim Rejections – 35 USC §112

Claims 13, 17 and 20 were rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement. In order to expedite the examination of the present application, each of claims 13, 17 and 20 have been amended to delete the recitation "(iv) when the mobile station remains outside the special area".

Claims 22 and 25 were rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement. In order to expedite the examination of the present application, each of claims 22 and 25 have been amended to delete the recitations "(iv) when the mobile station remains outside the special area" and "the second updating signal being sent from the mobile station while the mobile station is determined to be in both the first special area and the second special area".

Applicant amending the claims should not be considered as agreement with the rejection.

Statement of Substance of Interview

Applicant thanks the Examiner for her courtesy and helpful comments during the telephonic interview with Applicant's representative, Jeffri A. Kaminski, on December 18, 2014. During the interview, the rejection of the statutory double patenting of the claims over U.S. Patent 8,738,040 was discussed. The Examiner agreed to change the rejection to 'obviousness' type double patenting

Double Patenting

The Applicant submits a terminal disclaimer to overcome the double patenting rejection. Accordingly, the double patenting rejection is rendered moot.

Claim Amendment

The incorporated subject matter of amended claims 13, 17, and 20 may be found in the specification as originally filed, for example, in paragraph 145. Additionally, the incorporated subject matter of claims 22 and 25 may be found in the specification as originally filed, for example, in paragraph 98.

Conclusion

If the Examiner is of the opinion that the prosecution of this application would be advanced by a personal interview, the Examiner is invited to telephone undersigned counsel to arrange for such an interview.

The Commissioner is authorized to charge any fee necessitated by this Amendment to our Deposit Account No. 22-0261.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Dated: February 18, 2015

Respectfully submitted,

By: /Jeffri A. Kaminski/
Jeffri A. Kaminski
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VENABLE LLP
P.O. Box 34385
Washington, DC 20043-9998
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Attorney/Agent For Applicant

Electronic Acknowledgement Receipt

EFS ID:	21532727
Application Number:	14250517
International Application Number:	
Confirmation Number:	1071
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Customer Number:	26694
Filer:	Jeffri Kaminski
Filer Authorized By:	
Attorney Docket Number:	122358-363771
Receipt Date:	18-FEB-2015
Filing Date:	11-APR-2014
Time Stamp:	19:18:27
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		14250517-Response-to-Non-Final-OA.pdf	163265 f1c2671f49ebc18441845c13c21125afeaca4e26	yes	10

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment Copy Claims/Response to Suggested Claims	1	1
	Claims	2	8
	Applicant Arguments/Remarks Made in an Amendment	9	10
Warnings:			
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If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/250,517	Filing Date 04/11/2014	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT

02/18/2015	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 14	Minus	** 20	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 5	Minus	***5	= 0	X $210 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	**0**

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
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LIE
/ROZENIA HARMON/

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771	1071

26694 7590 01/07/2015

VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER	
CHANG, JEAN	

ART UNIT	PAPER NUMBER
2643	

NOTIFICATION DATE	DELIVERY MODE
01/07/2015	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):

PTOMail@Venable.com
lahill@venable.com
ksfeatherston@venable.com

Applicant-Initiated Interview Summary	**Application No.** 14/250,517	**Applicant(s)** PEREZ LAFUENTE, CARLOS A.	
	Examiner JEAN CHANG	**Art Unit** 2643	

All participants (applicant, applicant's representative, PTO personnel):

(1) *JEAN CHANG*. (3)_____.

(2) *Jeffri A. Kaminski (reg. no. 42,709)*. (4)_____.

Date of Interview: *18 December 2014*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☐103 ☒Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *13*.

Identification of prior art discussed: *n/a*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

The above mentioned applicant's representative initiated the interview to discuss office action regarding double patenting of claim 13. Examiner agreed to change the type of patenting to obviousness. Agreement was reached that applicant may forward draft amendments for consideration for allowability .

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/MARISOL FIGUEROA/ Primary Examiner, Art Unit 2643	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771

CONFIRMATION NO. 1071

26694
VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

PUB REQUEST ACCEPTANCE LETTER

OC00000072326683

Date Mailed: 12/11/2014

NOTICE OF ACCEPTANCE OF PUBLICATION REQUEST

The request for voluntary publication, amended publication, early publication, redacted publication, republication, corrected publication or revised publication has been received for this application. The request, including payment of any necessary fee(s), is in compliance with 37 CFR 1.215, 1.217, 1.219 or 1.221.

The projected publication date is 03/19/2015.

/kebuchanan/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771	1071

26694 7590 11/19/2014

VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

EXAMINER
CHANG, JEAN

ART UNIT	PAPER NUMBER
2643	

NOTIFICATION DATE	DELIVERY MODE
11/19/2014	ELECTRONIC

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PTOMail@Venable.com
lahill@venable.com
ksfeatherston@venable.com

Office Action Summary	Application No. 14/250,517	Applicant(s) PEREZ LAFUENTE, CARLOS A.	
	Examiner JEAN CHANG	Art Unit 2643	AIA (First Inventor to File) Status No

-- 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 *6/26/2014*.

☐ 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) *13-27* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *13-27* 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 or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *04/11/2014* 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

1. The present application is being examined under the pre-AIA first to invent provisions.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Preliminary Amendment

3. The preliminary amendment filed on 6/26/2014 is acknowledged. Claims 1-12 are cancelled. Claims 13-27 are pending for examination.

Claim Objections

4. Claims 14-16, 18-19, 21, 23-24 and 26-27 are objected to because of the following informalities:

   - Claims 14-16, 18-19, 21, 23-24 and 26-27 recites the limitation "A …" which should be "The …".

   Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. Claims 13, 17 and 20 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the

application was filed, had possession of the claimed invention. Claims 13, 17 and 20 contain subject matter "… (iv) when the mobile station remains outside the special area" which was not described in the specification.

6. Claims 22 and 25 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 22 and 25 contain subject matter "… (iv) when the mobile station remains outside the … special area" and "… the second updating signal being sent from the mobile station while the mobile station is determined to be in both the first special area and the second special area" which was not described in the specification.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process... may obtain a patent therefor..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the claims that are directed to the same invention so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

7. Claims 13 and 14 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of prior U.S. Patent No. 8,738,040. Claim limitations recited in the claims 13 and 14 of the instant application are drawn to identical subject matter as recited in the claim 1 of prior U.S. Patent No. 8,738,040. This is a statutory double patenting rejection.
8. Claim 15 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 4 of prior U.S. Patent No. 8,738,040. Claim limitations recited in the claim 15 of the instant application are drawn to identical subject matter as recited in the claim 4 of prior U.S. Patent No. 8,738,040. This is a statutory double patenting rejection.
9. Claim 16 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 9 of prior U.S. Patent No. 8,738,040. Claim limitations recited in the claim 16 of the instant application are drawn to identical subject matter as recited in the claim 9 of prior U.S. Patent No. 8,738,040. This is a statutory double patenting rejection.

10. Claims 17 and 18 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 14 of prior U.S. Patent No. 8,738,040. Claim limitations recited in the claims 17 and 18 of the instant application are drawn to identical subject matter as recited in the claim 14 of prior U.S. Patent No. 8,738,040. This is a statutory double patenting rejection.
11. Claim 19, pertaining to the subject matter of Claim 16, therefore, is rejected with the same rationale as analyzed in claim 16.
12. Claim 20 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 13 of prior U.S. Patent No. 8,738,040. Claim limitations recited in the claim 20 of the instant application are drawn to identical subject matter as recited in the claim 13 of prior U.S. Patent No. 8,738,040. This is a statutory double patenting rejection.
13. Claim 21 pertaining to the subject matter of Claim 16, therefore, is rejected with the same rationale as analyzed in claim 16.

As summarized in the Table below, the conflicting claims between the instant application of Patent No. 8,738,040 are substantially identical. They are not patentably distinct from each other.

Instant Application No. 14/250,517		**Patent No. 8,738,040**	
Claims		**Claims**	
13	A method associated with the use of a mobile station and at least one radio communication defining device that	1	A method for monitoring the presence of a mobile station in one or more special areas associated with the use of the mobile station, the method comprising: (a) repeatedly transmitting from at least one radio communication defining device a radio

	transmits a distinctive defining signal that at least partly defines a special area by its coverage, the distinctive defining signal including data, the method comprising: receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the data, whether the one or more defining signals are one or more distinctive defining signals and to determine whether or not the mobile station is present in the special area; and sending from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station's presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the special area, (iii) when the mobile station remains in the special area and (iv) when the mobile station remains outside the special area.		distinctive defining signal in at least one channel that at least partially defines one of the special areas by its coverage, (b) observing the channel and processing any received signal by the mobile station in order to determine whether or not it is receiving a defining signal, (c) processing any received defining signal by the mobile station and the mobile station determines whether or not the defining signal received is a distinctive defining signal that at least partially defines one of the special areas, and determines whether or not the mobile station is present in one or more of the special areas, (d) sending an updating signal from the mobile station to a mobile telephone network about the mobile station presence in one or more of the special areas, where *the updating signal sending* is uncorrelated to any mobile station phone call establishment and *is based on the last determination performed by the mobile station about its presence in each of the special areas*, and said updating signal being sent at least one of (i) periodically, (ii) when the mobile station enters into or exits from one of the special areas, and (iii) when the mobile station remains into a special area, (e) routing the updating signal from the mobile telephone network to special operating means that adapt the value of at least one operating parameter taking into account the presence of the mobile station in each of the special areas, (f) associating the special areas with the mobile station by transmitting a checking data to the mobile station, this checking data being sent to any mobile station whose presence in the special areas is monitored and being used by the mobile station for determining whether or not the defining signal received is a distinctive defining signal that defines, alone or with other distinctive defining signals, one or more of the special areas associated with the mobile station.
14	A method according to claim 13, *wherein the updating signal comprises the result of a previous determination performed by the mobile station about the mobile station's presence in the special area.*		
15	A method according to claim 13, wherein the frequency of the updating signal is different from the frequency of the distinctive defining signal.	4	The method according to claim 1, wherein at least one radio communication defining device is a wireless device whose radio distinctive defining signal is a distinctive wireless signal transmitted by the wireless device in a frequency range outside the frequency range allocated for the mobile telephone network…
16	A method according to claim 13, wherein the mobile station enables or disables one or more functions related to a presence related service upon receiving enabling or disabling instructions from the provider of presence related services.	9	The method according to claim 1, wherein the operating signal includes a request to access a service or multimedia content and the mobile telephone network routes this request to a part of the special operating means that allow or forbid the provision of this service or multimedia content depending on whether or not the mobile station is into the special area.

20	A mobile station capable of receiving a distinctive defining signal from a radio communication defining device that at least partly defines a special area by its coverage, the distinctive defining signal including data, the mobile station comprising: an electronic storage medium that stores at least a portion of the data; and a processor adapted to process one or more defining signals to determine, based on the at least portion of the data, whether the one or more defining signals are one or more distinctive defining signals and to determine whether or not the mobile station is present in the special area, the processor further adapted to send from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station's presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the special area, (iii) when the mobile station remains in the special area and (iv) when the mobile station remains outside the special area.	13	A mobile station, comprising: observing means to observe a channel and process any received signal in order to determine whether or not it is receiving a defining signal, a processor to process any received defining signal and to determine, based on a previously obtained checking data, whether or not the defining signal received is a distinctive defining signal that at least partially defines a special area, to determine whether or not it is present in one or more special areas, and to send an updating signal at least one of (i) periodically, (ii) when the mobile station enters into or exits from one of the special areas, and (iii) when the mobile station remains into a special area to a mobile telephone network about its presence in one or more of the special areas, where said updating signal sending is uncorrelated to any mobile station phone call establishment and is based on the last determination performed by the mobile station about its presence in the special areas.

14. Claims 22-24 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of prior U.S. Patent No. 8,738,040. Claim 1 of Patent No. 8,738,040 recites a method for monitoring the presence of a mobile station in one or more special areas associated with the mobile station, where at least one radio communication defining device repeatedly transmitting a radio distinctive defining signal in at least one channel that at least partially defines one of the special areas by its coverage. Claim 22 of the instant application recites a method associated with a mobile station for receiving first and second distinctive defining signals respectively from first and second radio communication defining

devices, the first and second distinctive defining signals at least partly define first and second special areas, respectively, by their coverage. The subject matter of the first and second radio communication defining devices recited in the instant application is obvious variants of the subject matter of at least one radio communication defining device recited in claim 22 and does not rise to the level of patentability distinction. “the second updating signal being sent from the mobile station while the mobile station is determined to be in both the first special area and the second special area” as recited in claim 22, does not rise to the level of patentability distinction either, as the mobile station processes any received defining signal and determines whether or not the defining signal received is a distinctive defining signal that at least partially defines one of the special areas and determines whether or not the mobile station is present in one or more of the special areas (step (c)) and the sending of an updating signal from the mobile station is based on the last determination performed by the mobile station about its presence in each of the special areas (step (d)) as recited in claim 1 of the Patent.

15. Claims 25-27, pertaining to subject matter of claims 22-24, therefore, are rejected with the same rationale as analyzed in claims 22-24 respectively.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Chang whose telephone number is (571) 270-7979. The examiner can normally be reached on Mon-Thursday from

9:00-5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jinsong Hu can be reached on (571) 272-3965. 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).

/Jean Chang/

Examiner, Art Unit 2643

/JINSONG HU/

Supervisory Patent Examiner,

Art Unit 2643

Notice of References Cited	Application/Control No. 14/250,517	Applicant(s)/Patent Under Reexamination PEREZ LAFUENTE, CARLOS A	
	Examiner JEAN CHANG	Art Unit 2643	Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,334,052 B1	12-2001	Nordstrand, Ingrid	455/411
*	B	US-2002/0094801 A1	07-2002	Atorf, Manfred	455/406
*	C	US-6,516,193 B1	02-2003	Salmela et al.	455/432.3
*	D	US-6,516,190 B1	02-2003	Linkola, Janne	455/408
*	E	US-2003/0092450 A1	05-2003	Juppi et al.	455/456
*	F	US-6,625,442 B1	09-2003	Kojima, Jun-Ichiroh	455/414.1
*	G	US-6,671,506 B1	12-2003	Lee, Yun-Hee	455/406
*	H	US-6,785,536 B1	08-2004	Lee et al.	455/408
*	I	US-2004/0192267 A1	09-2004	Kettunen et al.	455/414.1
*	J	US-2004/0224682 A1	11-2004	Kang, Myung-Seok	455/433
*	K	US-6,826,414 B1	11-2004	Reynolds et al.	455/555
*	L	US-6,836,653 B1	12-2004	Kang, Myung-Seok	455/408
*	M	US-2005/0075124 A1	04-2005	Willenegger et al.	455/522

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Notice of References Cited	Application/Control No. 14/250,517	Applicant(s)/Patent Under Reexamination PEREZ LAFUENTE, CARLOS A	
	Examiner JEAN CHANG	Art Unit 2643	Page 2 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,920,317 B1	07-2005	Muhonen, Ahti	455/405
*	B	US-2005/0148297 A1	07-2005	Lu et al.	455/003.06
*	C	US-7,142,869 B2	11-2006	Juppi et al.	455/456.1
*	D	US-7,171,189 B2	01-2007	Bianconi et al.	455/408
*	E	US-7,266,366 B2	09-2007	Kall, Jan	455/414.1
*	F	US-2008/0004045 A1	01-2008	Srey et al.	455/458
*	G	US-2008/0261604 A1	10-2008	Ritter, Rudolf	455/446
*	H	US-7,634,255 B2	12-2009	Ko et al.	455/414.1
*	I	US-2010/0167725 A1	07-2010	Noldus et al.	455/433
*	J	US-7,778,652 B2	08-2010	Srey et al.	455/458
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14250517	PEREZ LAFUENTE, CARLOS A.
	Examiner	Art Unit
	JEAN CHANG	2643

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	10/30/2014								
	1	-								
	2	-								
	3	-								
	4	-								
	5	-								
	6	-								
	7	-								
	8	-								
	9	-								
	10	-								
	11	-								
	12	-								
	13	✓								
	14	✓								
	15	✓								
	16	✓								
	17	✓								
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	23	✓								
	24	✓								
	25	✓								
	26	✓								
	27	✓								

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L5	33	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:16
L13	6	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near20 (periodically or enter$4 or exit$4 or leav$4 or presence or outside) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:29
L14	57220	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls. or (H04W64/00).CPC.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:30
L15	27	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near20 (periodically or enter$4 or exit$4 or leav$4 or presence or outside) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:30

L16	3	l15 and l5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:32
L17	9	l15 and l14	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 23:32
S1	29	"6334052"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/26 17:50
S2	5	"6785536"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/26 17:55
S3	20	"6826414"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/26 17:56
S4	4	"20020094801"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 08:40
S5	4	"2000027152"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 08:42
S6	4	"7212804"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 08:44
S7	3	"20080004045"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	ADJ	ON	2011/09/28 09:17

			DERWENT; IBM_TDB			
S8	3	"20030092450"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:20
S9	14589	(special or distint or different or preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:27
S10	2969	(special or distint or different or preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage) same (signal or code or identifier or identification or parameter or flag)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:29
S11	607	(special or distint or different or preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:30
S12	236	(special or distint or different or preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP) and monitor	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:30
S13	308	(special or distint or different or preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP) and (monitor or presence)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:31
S14	52	(special or distint or different or preferred or discount) near10 (service or tarrif or rate) near10 (area or coverage) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP) and (monitor or presence) and multimedia	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 09:31
S15	1006	(special or distint or different or preferred or discount) near20 (service or tarrif or rate or billing or charg$3 or zone) near20 (area or coverage) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:44
S16	399	S15 not S11	US-PGPUB; USPAT; USOCR;	ADJ	ON	2011/09/28 10:44

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S17	16	S16 and special service	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:45
S18	18	S16 and (special or distinct) (service or zone)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:45
S19	19	S16 and (special or distinct) (service or zone or area)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:45
S20	313	455/456.4.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:48
S21	6	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:48
S22	1	S20 and S16	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:49
S23	16	"6625442"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:49
S24	20	"6516193"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/28 10:52
S25	5	"6785536"	US-PGPUB;	ADJ	ON	2011/09/30

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			18:40
S26	6	"6920317"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/09/30 18:42
S27	1182	(special or limited or distint or different or preferred or discount or home) near10 (service or tarrif or rate) near10 (area or coverage or location or zone) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP or device) same (wireless or mobile) and (monitor or presence)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/21 10:39
S28	15	(special or limited or distint or different or preferred or discount or home) near10 (service or tarrif or rate) near10 (area or coverage or location or zone) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP or device) same (wireless or mobile) and (monitor or presence) near10 (mobile or wireless) (station or device or phone) near10 (determin$4 or recogniz$4 or realiz$3 or check$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/21 10:44
S29	368	455/456.4.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/21 11:35
S30	6	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/21 11:36
S31	15	(special or limited or distint or different or preferred or discount or home) near10 (service or tarrif or rate) near10 (area or coverage or location or zone) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP or device) same (wireless or mobile) and (monitor or presence) near10 (mobile or wireless) (station or device or phone) near10 (determin$4 or recogniz$4 or realiz$3 or check$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/21 11:36
S32	0	S31 and S29	US-PGPUB; USPAT;	ADJ	ON	2012/06/21 11:36

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S33	18	(special or limited or distint or different or preferred or discount or home) near10 (service or tarrif or rate) near10 (area or coverage or location or zone) same (signal or code or identifier or identification or parameter or flag) same ((base station) or cell or AP or device) same (wireless or mobile) and (monitor or presence) near10 (mobile or wireless) (station or device or phone) near10 (determin$4 or recogniz$4 or realiz$3 or check$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/25 01:08
S34	6	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/25 01:10
S35	1	S33 and S34	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/25 01:10
S36	1	"12294641"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2012/06/25 18:36
S37	771	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3) same ((base station) or cell or AP or device)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 12:34
S38	211	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near5 ((service or tarrif or rate)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 12:38

		or (area or coverage or location or zone)) near10 (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3) near10 ((base station) or cell or AP or device or network)				
S39	150	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near5 ((service or tarrif or rate) or (area or coverage or location or zone)) near10 (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3) near10 ((base station) or cell or AP or device or network)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2013/06/01 12:49
S40	1	"12294641"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 13:53
S41	30	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near5 ((service or tarrif or rate) or (area or coverage or location or zone)) near10 (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3) near10 ((base station) or cell or AP or device or network)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	OFF	2013/06/01 19:14
S42	771	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3) same ((base station) or cell or AP or device)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:20
S43	106	S42 and (location or zone or area) service	US-PGPUB; USPAT; USOCR; FPRS;	ADJ	ON	2013/06/01 19:20

			EPO; JPO; DERWENT; IBM_TDB			
S44	11	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:29
S45	19	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6) near10 (signal or code or identifier or identification or parameter or flag or messag$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:30
S46	81	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone)) and (LBS or (location near6 service))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:36
S47	81	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone)) and (LBS or ((location or geo$6) near6 service))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:36
S48	128	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 19:59
S49	39	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	ADJ	ON	2013/06/01 20:01

		discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone)) same (report$4 or send$4 or transmi$5 or notify$6)	IBM_TDB			
S50	128	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) near10 (presence or enter$4 or exit$4 or leav$4) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) near5 (area or coverage or location or zone))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 20:05
S51	89	S50 not S49	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 20:07
S52	3	"2008171531"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 22:55
S53	2	"20080171531"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 22:55
S54	29	(US-20020094801-$ or US-20080004045-$ or US-20030092450-$ or US-20080261604-$ or US-20050148297-$ or US-20050075124-$ or US-20040224682-$ or US-20040192267-$ or US-20100167725-$ or US-20080171531-$).did. or (US-6334052-$ or US-6625442-$ or US-6785536-$ or US-6826414-$ or US-7778652-$ or US-7142869-$ or US-7171189-$ or US-6836653-$ or US-6516193-$ or US-6671506-$ or US-7634255-$ or US-7266366-$ or US-6920317-$ or US-6516190-$).did. or (WO-2007009297-$).did. or (WO-0027152-$ or WO-9858505-$ or WO-2007014714-$ or JP-2000050335-$).did.	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2013/06/01 23:06
S55	9	S54 and (enter$4 or exit$4 or leav$4) same (zone or (service area))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 23:07
S56	3822	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same	US-PGPUB; USPAT; USOCR;	ADJ	ON	2013/06/01 23:12

		(presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6 or report$5 or notify$5)	FPRS; EPO; JPO; DERWENT; IBM_TDB			
S57	1223	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6 or report$5 or notify$5) and (zone or (service area) or LSA)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 23:14
S58	197	S57 and (enter$4 or exit$4) near10 (zone or (service area))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/01 23:16
S59	6	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/02 23:49
S60	22527	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/02 23:51
S61	1222	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near10 (special or limited or distint or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) same (send$4 or transmit$5 or transmi$6 or report$5 or notify$5) and (zone or (service area) or LSA)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/02 23:52
S62	197	S61 and (enter$4 or exit$4) near10 (zone or (service area))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	ADJ	ON	2013/06/02 23:52

			IBM_TDB			
S63	0	S62 and S59	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/02 23:52
S64	59	S62 and S60	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2013/06/02 23:52
S65	1	"12294641"	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2014/01/06 23:30
S66	1	S65 and updating signal	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2014/01/06 23:30
S67	1	S65 and updating signal same (period$5 or enter$4 or exit$4)	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2014/01/06 23:46
S68	1	S65 and updating signal and (period$5 or enter$4 or exit$4)	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2014/01/06 23:50
S69	1	S65 and updating signal and (periodically or enter$4 or exit$4)	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2014/01/07 00:31
S70	1	"12294641"	US-PGPUB; USPAT; EPO; DERWENT	ADJ	ON	2014/01/20 18:22
S71	24	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:24
S72	30466	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:25
S73	987	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near15 (special or limited or distinct$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:27

		or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) and (zone or (service area) or LSA)				
S74	247	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near15 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) same (memory or stor$4) near10 (data or check$4 or identifier or identification)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:32
S75	42	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (presence or enter$4 or exit$4 or leav$4 or detect$4 or identify$4 or determin$4 or recogniz$4 or realiz$3 or check$3) near15 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) same (memory or stor$4) near10 (data or check$4 or identifier or identification)).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:34
S76	1	S74 and S71	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:34
S77	60	S74 and S72	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 19:34
S78	48	S77 not S75	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 20:05
S79	13	S78 and (special or limited or preferred or discount$4) near5 (area or zone or service)	US-PGPUB; USPAT; USOCR; FPRS;	ADJ	ON	2014/01/20 20:06

			EPO; JPO; DERWENT; IBM_TDB			
S80	2	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near15 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near15 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near5 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) (area or coverage or location or zone))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:05
S81	19	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:13
S82	24	"lafuente, carlos".inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:27
S83	30466	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:27
S84	1	S81 and S82	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:27

S85	6	S81 and S83	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:27
S86	4	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/01/20 23:30
S93	3	"12294641"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/09/19 13:31
S94	1	"14250517"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/09/19 13:33
S95	4	"8723664"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:31
S96	0	wo0103372	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:36
S97	0	wo01003372	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:37
S98	28	"200103372"	US-PGPUB;	ADJ	ON	2014/10/15

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			17:37
S99	61	"0103372"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:37
S100	64	"6334052"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:40
S101	81	"6826414"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 17:59
S102	1	"14250517"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:22
S103	1	S102 and outside near10 special area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:22
S104	1	S102 and send$4 near10 updat$3 signal	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:25
S105	0	S102 and updat$4 near5 signal same presence and periodically and (enter$4 or exit$4) and remain$4 near10 (in or outside) near5 area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:29
S106	0	S102 and updat$4 near5 signal same presence and periodically and (enter$4 or exit$4) and remain$4 near10 (in or outside) area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	ADJ	ON	2014/10/15 18:30

			IBM_TDB			
S107	1	S102 and updat$4 near5 signal same presence and periodically and (enter$4 or exit$4) and (in or outside) near10 area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:30
S108	1	S102 and updat$4 near5 signal same presence and periodically and (enter$4 or exit$4) and (outside) near10 area	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2014/10/15 18:56

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L6	6	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence or outside) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:18
L7	6	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near20 (periodically or enter$4 or exit$4 or leav$4 or presence or outside) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:21
L8	6	"lafuente, carlos".inv.	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:26
L9	32084	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:27

		455/456.1.ccls. or 455/433.ccls. or (H04W64/00).CPC.				
L10	5	l9 and l7	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:27
L11	3	l9 and l8	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:28
L12	3	l7 and l8	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/10/15 23:28
S87	16	(mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/01/20 23:33
S88	4	"lafuente, carlos".inv.	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/01/20 23:33
S89	25021	455/456.4.ccls. or 455/555.ccls. or 455/408.ccls. or 455/432.2.ccls. or 455/406.ccls. or 455/458.ccls. or 455/414.1.ccls. or 455/446.ccls. or 455/456.1.ccls. or 455/433.ccls.	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/01/20 23:33
S90	4	((mobile or wireless or electronic or communication) (station or device or phone or terminal or equipment) same (receiv$4) near5 (signal or transmission or broadcast or data) near30 (detect$4 or identify$4 or determin$4 or recogniz$4 or presence) near20 (special or limited or distinct$5 or different or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone)) near20 (send$4 or transmit$5 or transmi$6 or report$5 or notify$5 or signal$4) near10 (periodically or enter$4 or exit$4 or leav$4 or presence) near10 (special or limited or distinct$5 or preferred or discount or home) near10 ((service or tarrif or rate) or (area or coverage or location or zone))).clm.	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/01/20 23:33
S91	1	S87 and S88	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/01/20 23:34

S92	6	S87 and S89	US-PGPUB; USPAT; UPAD	ADJ	ON	2014/01/20 23:34

10/15/2014 11:40:17 PM
C:\Users\jchang7\Documents\EAST\Workspaces\14250517.wsp

PTO/SB/08a (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	14/250,517-Conf. #1071
Filing Date	April 11, 2014
First Named Inventor	Carlos A. Perez Lafuente
Art Unit	~~Not Yet Assigned~~ 2643
Examiner Name	~~Not Yet Assigned~~ Jean Chang
Attorney Docket Number	122358-363771

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA*	US-8,723,664	05-13-2014	Rezvani et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
	BA	WO-0103372-A1	01-11-2001	Samsung Electronics Co., Ltd		

Examiner Signature	/Jean Chang/	Date Considered	09/19/2014

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.C./

PTO/SB/08b (07-09)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 2 of 2

Complete if Known	
Application Number	14/250,517-Conf. #1071
Filing Date	April 11, 2014
First Named Inventor	Carlos A. Perez Lafuente
Art Unit	~~Not Yet Assigned~~ 2643
Examiner Name	~~Not Yet Assigned~~ Jean Chang
Attorney Docket Number	122358-363771

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	CA	International Search Report issued in PCT/EP2007/052939 dated June 21, 2007	

Examiner Signature	/Jean Chang/	Date Considered	09/19/2014

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant's unique citation designation number (optional). [2]Applicant is to place a check mark here if English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.C./

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14250517	PEREZ LAFUENTE, CARLOS A.
	Examiner	Art Unit
	JEAN CHANG	2643

CPC- SEARCHED		
Symbol	Date	Examiner
H04W 4/02	10/15/2014	jc

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
455	456.1, 456.4, 432.2, 433, 406, 458, 414.1, 446	10/15/2014	jc

SEARCH NOTES		
Search Notes	Date	Examiner
inventor search and text search on East databaases for mobile station identifying sending signal presence special service area enter leaving in outside first second	10/15/2014	jc

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
455	456.1, 456.4, 432.2, 433, 406, 458, 414.1, 446	10/15/2014	jc

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CONFIRMATION NO. 1071

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
14/250,517	04/11/2014 RULE	455	2643	122358-363771

APPLICANTS
AFIRMA CONSULTING & TECHNOLOGIES, S.L., Madrid, SPAIN, Assignee (with 37 CFR 1.172 Interest);

INVENTORS
CARLOS A. PEREZ LAFUENTE, Madrid, SPAIN;

**** CONTINUING DATA **********************
This application is a CON of 12/294,641 04/12/2010 PAT 8738040

**** FOREIGN APPLICATIONS **********************
EUROPEAN PATENT OFFICE (EPO) 06111804.8 03/28/2006

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04/30/2014

Foreign Priority claimed ☑ Yes ☐ No 35 USC 119(a-d) conditions met ☑ Yes ☐ No Verified and Acknowledged /JEAN CHANG/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		SPAIN	7	12	2

ADDRESS
VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998
UNITED STATES

TITLE
METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

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Complete if Known	
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First Named Inventor	Carlos A. Perez Lafuente
Art Unit	~~Not Yet Assigned~~ 2643
Examiner Name	~~Not Yet Assigned~~ Jean Chang
Attorney Docket Number	122358-363771

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA*	US-2002/0094801	07-18-2002	Atorf	
	AB*	US-6,516,190	02-04-2003	Linkola	
	AC*	US-6,516,193	02-04-2003	Salmela et al.	
	AD*	US-6,826,414	11-30-2004	Reynolds et al.	
	AE*	US-6,920,317	07-19-2005	Muhonen	
	AF*	US-6,671,506	12-30-2003	Lee	
	AG*	US-6,785,536	08-31-2004	Lee et al.	
	AH*	US-6,334,052	12-25-2001	Nordstrand	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature	/Jean Chang/	Date Considered	09/15/2014

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.C./

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771	1071

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EXAMINER	
CHANG, JEAN	

ART UNIT	PAPER NUMBER
2643	

NOTIFICATION DATE	DELIVERY MODE
11/19/2014	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.

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First Named Inventor: Perez LaFuente
Appl. No.: 14/250,517
Filing Date: April 11, 2014
Title: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
Attorney Docket No.: 122358-363771
Pub. No.: US 2014/0221007 A1
Pub. Date: August 7, 2014

This is a decision on the request for republication of patent application publication under 37 CFR 1.221(a), filed on October 7, 2014, for the above-identified application.

The request under 37 CFR 1.221(a) is DISMISSED.

37 CFR 1.221(a) requires "a copy of the application in compliance with the Office electronic filing system requirements and be accompanied by the publication fee set forth in § 1.18(d) and the processing fee set forth in § 1.17(i)". If the request for republication does not comply with the electronic filing system requirements, the republication will not take place and the publication fee set forth in § 1.18(d) will be refunded. The processing fee will be retained.

The applicant did not supply a copy of the application in compliance with the Office electronic filing system, as required by 37 CFR 1.221(a) because **the applicant submitted the papers as a "Document for an existing application", which are entered into the application file, and not as a "Pre-Grant Publication" submission**. The request for republication does not comply with the electronic filing system requirements, thus republication will not take place.

Any request for republication under 37 CFR 1.221(a), must be submitted via the EFS system, as a Pre-Grant publication submission and must include a copy of the application in compliance with the Office electronic filing system requirements. The applicant is directed to the following website for additional instructions on how to submit a Pre-Grant Publication submission via the electronic filing system:

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771

CONFIRMATION NO. 1071

POA ACCEPTANCE LETTER

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OC000000071592056

Date Mailed: 11/04/2014

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/28/2014.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/zmoguss/

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Document Description: Power of Attorney

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Application Number	14/250,517
Filing Date	April 11, 2014
First Named Inventor	Carlos A. Perez LaFuente
Title	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
Art Unit	2643
Examiner Name	Jean Chang
Attorney Docket Number	122358-363771

SIGNATURE of Applicant or Patent Practitioner

Signature		Date (Optional)	
Name	Jeffri A. Kaminski	Registration Number	42,709
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

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[X] *Total of 1 forms are submitted.

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I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
14/250,517	4/11/2014

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[ ] I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

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I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

AFIRMA CONSULTING & TECHNOLOGIES, S.L.

[ ] Inventor or Joint Inventor (title not required below)

[ ] Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

[X] Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

[ ] Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	
Name	Carlos Alberto Perez LaFuente		
Title	Chief Executive Officer (CEO)		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

[X] Total of 1 forms are submitted.

Electronic Acknowledgement Receipt

EFS ID:	20539038
Application Number:	14250517
International Application Number:	
Confirmation Number:	1071
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Customer Number:	26694
Filer:	David M. Klecyngier
Filer Authorized By:	
Attorney Docket Number:	122358-363771
Receipt Date:	28-OCT-2014
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Time Stamp:	16:53:08
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	POA_w_Transmittal.pdf	141676 2347a395342a246fd8cef3ed54f9df4844ab67ad	no	2

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New International Application Filed with the USPTO as a Receiving Office
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Carlos A. Perez Lafuente	Art Unit: 2642
Application No: 14/250,517	Examiner: Chang, Jean
Confirmation No: 1071	
Filed: April 11, 2014	Atty. Docket No: 122358- 363771
For: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	Customer No: 26694 PATENT & TRADEMARK OFFICE

REQUEST FOR REPUBLICATION AND CORRECTION OF PATENT APPLICATION PUBLICATION UNDER 37 C.F.R. § 1.221 (a)

Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313

Dear Madam:

Applicants hereby request that Pre-Grant Publication Document No. US 2014-0221007-A1 be republished.

Applicant submits the fees under 37 C.F.R. § 1.18(d) and § 1.17(i). The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 22-0261, under Order No. 122358-363771.

Dated: October 7, 2014

Respectfully submitted,

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METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. National Phase Application No. 12/294,641, filed April 12, 2010 which claims priority to International Application No. PCT/EP2007/052939 filed March 27, 2007 which claims benefit of the European Patent Application No. 06111804.8 filed March 28, 2006 each of which is hereby incorporated herein by reference in their entireties.

BACKGROUND ART

[0002] This invention relates to a method for monitoring a mobile station presence in a special area. This invention relates also to a mobile system, a server, a radio transmitting device, and a mobile station suitable for carrying out such a method.

[0003] Development of short range wireless communication solutions based on the use of Bluetooth, DECT and WIFI within a small area such as homes is strong competition for mobile operators owning wide mobile networks. A mobile telephone network (called also mobile network) includes a large number of base stations and all the data processing means required to provide the telecommunication service to each mobile station serviced by said mobile network.

[0004] These short range wireless communication solutions can provide direct connection to fixed networks whose operators offer cheaper rates than those offered by mobile networks. It can therefore be of interest for mobile network operators to offer different rates depending on the instantaneous location of a mobile station connected to its mobile network, in particular in areas; called special areas, where it could face strong competition from some short range wireless communication solutions.

[0005] The published patent application n^{0} US20020094801 describes a technical solution: a fixed station sends an encoded first signal and the coverage of said first signal defines a

special area. The fixed station and a mobile station using the special area are linked one another via the signal code. But this document does not disclose anything about the content of said coded signal. In order to realize protection against the abuse of the system, in an embodiment, this document proposes to provide the fixed station with receiving and comparison means for an access code that is to be applied to the fixed station via the mobile station in order to put the fixed station into operation.

[0006] The international application WO 00/27152 offers another solution for locating a mobile station based on the use of a guide unit that broadcasts a short range radio signal which defines a home area. This document discloses that the short range radio signal contains the identity code of said mobile station that has to identify its own identity code in order to notice to a mobile switching centre that it is located in its home area. This mobile station transmits then a home message to the mobile network, this home message being possibly used notably for defining the price/service connected to telephone calls. In this last, technical solution, the guideunit has to know the identity of the mobile station and this last solution is thought to be used for a home special area.

[0007] However, this last technical solution does not allow the mobile network, to add for a mobile station one or more special areas wherein the presence of a mobile station is monitored without having to at least modify one or more guide units broadcasting in such areas. It lacks therefore of flexibility.

DISCLOSURE OF THE INVENTION

[0008] An object of the invention is therefore to provide a method for monitoring the presence of a mobile station in at least one special area, said method providing the flexibility to the mobile telephone network of associating new special areas for this mobile station in a secure way without modifying any radio transmitting device.

[0009] This object is achieved in accordance with claim 1 by providing a method for monitoring the presence of a mobile station in at least one special area associated to the mobile station, the method comprising the following steps:

a. at least one radio communication defining device transmits repeatedly in at least a channel one radio distinctive defining signal that defines the special area by its coverage

b. the mobile station observes the channel and process any signal
received in order to determine whether or not it is receiving any defining signal,
c. the mobile station processes any defining signal received in order to determine whether or not the defining signal received is a distinctive defining signal that defines the special area,
d. the mobile station sends an updating signal to a mobile telephone network about its presence in the special area,
e. the mobile telephone network routes the updating signal to special operating means that adapt the value of at least one operating parameter depending on the presence of the mobile station in the special area, the said method is characterized in that the special area is associated to the mobile station by transmitting to the mobile station a checking data, this checking data being used by the mobile station for determining whether or not the defining signal received is a distinctive defining signal that defines, alone or with other distinctive defining signals, the special area associated to the mobile station and the same checking data being sent to any mobile station whose presence in this special area is monitored.

[0010] Advantageously from the operator's point of view, the invention brings the flexibility needed to activate a special way of operating a mobile station in a special area by transmitting a checking data that will be stored in a mobile station database without having to modify, by way of introducing any new data (notably the identity code of said mobile station), at least one radio communication defining device likein the aforementioned international patent application WO 00/27152. Therefore, a radio communication defining device is not required to store all the mobile stations identity codes using the special area defined by at least the coverage of its defining signal(s).

[0011] According to the present invention, a special area associated to a mobile stationcan be defined by one or more defining signals. Therefore the checking data may preferably contain information included in every defining signals defining completely a special area (each one defines it partially) and the mobile station try to find any of this information in any defining signal received with comparison means. The mobile station may receive defining signals that do not define any special area for it. In the case where the special area is defined by two or

more defining signals, this special area may be the intersection of all or part of them or the global coverage of the defining signals.

[0012] In addition, a method according to the invention is specially suitable to be used in environments like for example airports, company's premises or business centres where the number of different mobile stations to be serviced by the mobile telephone network would be high. With the solution of the aforementioned international patent application WO 00/27152, it would be necessary to store and transmit in and from a single radio communication defining device all the mobile station identity codes of the potential mobile stations using a special area defined in such environment, operation which would difficult or even impossible considering that the radio spectrum is a limited resource. Therefore, the application WO 00/27152 has a narrower geographical scope of usability. It is also not required, thanks to the invention, to send any activation code to activate a radio communication defining device and it is not required to store all the mobile stations activation codes in the radio communication defining device, as in one embodiment of the published patent application n2US20020094801. Therefore, it is easier with this present invention to realize protection against abuse of the system.

[0013] The special operating means may be at least partly included in the data processing means of the mobile telephone network. All of them or part of them may be own or operate by an external provider of the mobile telephone network.

[0014] In a particular embodiment, the special area is deactivated for the mobile station by the mobile telephone network sending a deactivation signal to the mobile station to stop the mobile station from recognizing a defining signal that defines that special area as a distinctive one.

[0015] In a particular embodiment, the special operating means acknowledge the reception of the updating signal and transmit an acknowledgement signal to the mobile station. In this embodiment, the mobile station knows advantageously if the mobile telephone network received the updating signal or not.

[0016] In a particular embodiment, at least one radio communication defining device is a wireless device whose radio defining signal that defines the special area is distinctive wireless signal transmitted by the wireless device in a frequency range outside the frequency

range allocated for the mobile telephone network. Preferably, the said distinctive wireless signal contains wireless device identification data and reliable information confirming that the wireless device is effectively located into a predetermined environment. The operator of the mobile telephone network advantageously avoids fraud linked to a possible shifting of the wireless device. The checking data associated to this wireless device includes this wireless device identification data.

[0017] In another particular embodiment, at least one radio communication defining device is a base station whose radio distinctive defining signal that defines the special area is a distinctive signal comprising a special mobile telephone network identification code, the checking data associated to this base station includes this special mobile telephone network identification code.

[0018] In another particular embodiment, at least one radio communication defining device is a base station whose radio distinctive defining signal that defines the special area is a distinctive base station identity signal comprising an identification code of the base station, the checking data associated to this base station includes this base station identification code. The mobile telephone network operator controls and knows the location of all the base stations broadcasting identification codes contained into the mobile station database and therefore advantageously controls the location of the special area.

[0019] In an embodiment of this invention, the special operating means store a parameters database linking the special area to the mobile station and to a set of at least the operating parameter; and the special operating means adapt the value of at least an operational parameter of this set when they receive an updating signal signalling that the mobile station exits or enters the special area. Thanks tothis embodiment of the invention, the processing of these operating parameters is centralized in the special operating means and it is not done in each base station. In case the mobile station will be switch off, the mobile network operator will decide whether or not the values of the operating parameters associated to the presence of the mobile station into special operating areas remain unchanged or are disabled into the database containing the set of operating parameters as consequence of the switching off process.

[0020] In a particular embodiment, the operating parameter is a tariff or a service flag that enables or disables a special tariff or a service for the mobile station. Advantageously, the operator's services offer can therefore being dependent on the location of the mobile station.

[0021] In a particular embodiment, the updating signal includes a request to access to a service or to a multimedia content and the mobile telephone network routes this request to a part of the special operating means that allow or forbid the provision of this service or multimedia content depending on whether or not the mobile station is into the special area. This part of the special operating means may be operated by the mobile telephone network operator or by a different provider.

[0022] In a particular embodiment, the transmission of the checking data to the mobile station is done via the mobile telephone network or via a signal of at least one radio device or via a person introducing the checking data in the mobile station.

[0023] According to the present invention, there is further provided a mobile system for monitoring the presence of a mobile station in a special area defined for this mobile station, said system comprising :

- checking means for detecting the presence of the mobile station in the special area associated to this mobile station, said checking means including

  - At least one radio communication defining device transmitting repeatedly in at least a channel a radio distinctive defining signal that defines the special area,

  - in the mobile station, observing means for observing the channel and processing means for processing any signal received in the channel in order to determine whether or not the signal received is a defining signal and, if the signal received is a defining signal, whether or not the signal received is a distinctive defining signal that defines the special area,

- transmission means for sending an updating signal regarding the presence of the mobile station in the special area from the processing means to special operating means included at least partly in data processing means of the mobile telephone network,

- the special operating means for adapting the value of at least one operating parameter depending on the presence of the mobile station in the special area, characterized in that the said mobile system comprises storing means for storing a checking data in the mobile station, the processing means include means for using this checking data for determining whether or not the defining signal received is a distinctive defining signal that defines, alone or with other distinctive defining signals, the special area and the same checking data is sent to any mobile station whose presence in this special area is monitored.

[0024] In a particular embodiment of the invention, the mobile system comprises special area location monitoring means for monitoring the correct location of at least a part of the special area. It is then harder to fraud by moving the radio communication defining device. In a particular embodiment of the invention, the mobile system carries out a method according to the present invention.

[0025] This invention also concerns a server. According to the invention, this server is characterized in that it contains at least some of the special operating means included in the mobile system according to the present invention. This server may contain the whole or part of the special operating means. In this last case, the special operating means may be spread in several servers or computers.

[0026] According to the present invention, there is further provided a radio communication defining device, characterized in that it carries out a method according to the present invention. In a particular embodiment, the said radio communication defining device of the invention is a wireless device and it contains means for transmitting the distinctive wireless signal that defines the special area and means for obtaining reliable information indicating whether or not the said wireless device is located into a predetermined environment.

[0027] This invention also concerns a mobile station, characterized in that this mobile station is suitable to carry out a method according to the present invention. This mobile station may be a mobile telephone or a Personal Digital Assistant for example.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] In the following detailed description of some possible embodiments, other features and advantages of the invention will appear, each description being made with reference to the following drawings:

[0029] Figure 1 is a schematic diagram illustrating an embodiment of a mobile system according to the invention;

[0030] Figure 2 is a schematic diagram illustrating another embodiment of a mobile system according to the invention;

[0031] Figure 3 is a schematic diagram illustrating another embodiment of a mobile system according to the invention;

[0032] Figure 4 is a flow chart illustrating partly an embodiment of a method according to the invention;

[0033] Figure 5 is a flow chart illustrating another part of an embodiment of a method according to the invention;

[0034] Figure 6 is a schematic diagram of a part of an operating parameters database in an embodiment of the invention;

[0035] Figure 7 is a schematic diagram of a part of another operating parameters database in an embodiment of the invention.

DETAILED DESCRIPTION

[0036] A mobile station serviced by the mobile telephone network. The mobile telephone network may be cellular or not.

[0037] In this description and in the claims, it is supposed, in the case that the mobile telephone network is cellular, that each base station of the cellular mobile telephone network is associated to a unique cell. Therefore, some base stations of the cellular mobile network can be located in the same location and share technical means. For example, a tower may incorporate three sets of antennas, each set being part of a different base station of the same mobile network.

[0038] Figure 1, figure 2 and figure 3 are three schematic figures describing three particular embodiments of mobile systems according to the invention.

[0039] Figure 1 is a schematic diagram illustrating an embodiment of the invention wherein:

- any base station 107 or 105 of a mobile telephone network of an operator is a radio communication defining device transmitting a radio defining signal in a channel used by the mobile telephone network,

- the distinctive radio defining signal that defines the special area is a distinctive signal transmitted by some selected base stations 105, said distinctive signal comprising a special mobile telephone network identification code. The sum of the coverage of these selected base stations 105 defines a special area (the shaded area of figure 1).

- the checking data includes this special mobile telephone network identification code.

[0040] More precisely, Figure 1 shows a geographical area 102 covered by the mobile telephone network. The radio coverage of the mobile telephone network in this geographical area 102 is the addition of the radio coverage 104 and 106 of several base stations 105 and 107. The mobile telephone network includes data-processing means that comprise a server according to the invention including special operating means according to the invention.

[0041] Each base station is transmitting network data, including a mobile telephone network identification code, which allows a mobile station 100 in the geographical area 102 to select the appropriate mobile telephone network.

[0042] The operator of the mobile telephone network defines one special mobile telephone network identification code, called IC2, (in another embodiment, the operator may create more than one special mobile telephone network identification code) different from a normal mobile telephone network identification code, called IC1. Then the operator configures its mobile telephone network in such a way that some base stations 107 (in general the majority of them) transmit a radio defining signal comprising the normal mobile telephone network identification code and the selected base stations 105 (in general a minority of them) transmit a distinctive defining signal comprising a special mobile telephone network identification code.

[0043] The checking data (i.e. IC2) is stored into an internal mobile station database included in mobile station 100 storing means, this mobile station 100 being associated to this special area. The same checking data is sent to any mobile station whose presence in this special area is monitored.

[0044] The mobile station 100 contains observing means and processing means for determining that the distinctive defining signal transmitted by any base station 105 is received. These processing means include means for using the checking data that include, in this embodiment, comparing means:Thanks to these comparing means, the mobile telephone network identification codes received by the mobile station are compared to IC2 stored into the internal mobile station database: If the mobile station is in a position like the position (a) in figure 1, i.e. inside the special area, the mobile telephone network identification code received is equal to IC2 and therefore the mobile station 100 determines that it is into the special area. Otherwise, if the mobile station 100 is in position like the position (b) in figure 1, i.e. outside the special area, the mobile station 100 receives a defining signal containing 101 different from IC2 and determines that it is not receiving any distinctive defining signal and therefore that it is not into the special area.

[0045] For example, if the mobile station 100 is a GSM mobile station operating into a GSM mobile telephone network, the mobile station 100 has the capability to store the received mobile telephone networks identification codes into a mobile station 100 memory. In that case, the mobile station 100 may access to such internal memory to get data to determine, together with the checking data (i.e. IC2), whether or not it is receiving any distinctive defining signal.

[0046] With the exception of the processes concerning the invention, a special mobile telephone network identification code (IC2) is equivalent, from the perspective of both the mobile station and the mobile telephone network, to a normal mobile telephone network identification code (IC1). In this context, processes such as network selection, selection / reselection of base stations and handover will not be influenced because some base stations transmit IC1 and some other transmit IC2, such lack of influence meaning that all the mobile station and the mobile telephone network processes (except the processes concerning the invention) will be handle as if IC1 and IC2 would be the same code.

[0047] For example, a mobile telephone network operator can use this embodiment of the invention to offer one set of normal billing rates in-an urban environment of a country, and another set of special billing rates for a rural environment. Another example of the application of this embodiment of the invention is for a mobile telephone network operator to offer normal billing rates for the whole country except in industrial areas or business districts.

[0048] Figure 2 is a schematic diagram illustrating an example of another embodiment of a mobile system according to the invention wherein the radio communication defining device is a wireless device (212 or 212b), e.g. a WIFI, Bluetooth or DECT device, the radio distinctive defining signal that defines the special area is a distinctive wireless signal 214 or 214b (e.g. a WIFI, Bluetooth or DECT signal) transmitted by the wireless device (212 or 212b) in a frequency range outside the frequency range allocated for the mobile telephone network. A mobile station 200 whose presence in the special area is monitored includes observing means and processing means for

determining whether or not any defining signal is received inthe frequency range used by the wireless device.

[0049] Each distinctive wireless signal contains wireless device identification data and reliable information confirming that its transmitting wireless device (212 or 212b in figure 2) is effectively located into a predetermined environment. The checking data comprises a set of at least one wireless device identification data.

[0050] The predetermined environment may be one or more specific geographical locations (for example several fixed points into a restaurant) or a physicalenvironment that can be mobile (for example a car, a plane or a boat). The predetermined environment is defined by the operator of the mobile telephone network.

[0051] The distinctive wireless signals are preferably coded and the mobile station 15 processing means include decoding means to decode the wireless signals received.

[0052] The mobile system comprises special area location monitoring means for monitoring the correct location of any wireless device that may transmit a distinctive wireless signal into this predetermined environment and therefore for monitoring at least a part of the special area.

[0053] In a particular embodiment of the special area location monitoring means, the reliable information comprised into the wireless signal confirms that the wireless device is effectively located into a predetermined geographical environment defined by the operator of the mobile telephone network when:

the wireless device able to receive a RBU signal from at least one radio broadcasting unit (RBU)

RBU identification data is comprised into the RBU signal,

the wireless device receives, through the RBU signal from the RBU, the RBU identification data that are included into a RBU identification database of the wireless device..

[0054] The storage of the RBU identification data into the wireless device RBU identification data database may be done at the Wireless device configuration stage. In the particular example of figure 2 and the wireless device 212, the RBU is a base

station 205 of the mobile telephone network, the RBU identification data is a base station identification code. The wireless device 212 is authenticated into the mobile telephone network comprising the base station 205 and may receive the base station signal 220 when it is located within the range of coverage 204 of the base station 205.

[0055] In a second example of embodiment of the special area location monitoring means, the reliable information comprised into the wireless signal confirms that the wireless device is effectively located into a predetermined geographical environment defined by the operator of the mobile telephone network when it is physically connected to any fixed network connection points defined by the operator of the mobile telephone network for the special area and it is also authenticated into the said fixed network through any of the mentioned fixed network connection points. In this embodiment, the wireless device also comprises means for communicating with the fixed network. In a particular example of this embodiment, some parameters are stored into the wireless device during its configuration stage and such parameters are used by the wireless device to perform the said authentication process into the fixed network.

[0056] These connection points may be PSTN (`Public Switching Telephony Network') connectors for ADSL network services or electrical sockets for PLC (`Power Line Communication') home network services for example: In the particular example of figure 2 and the wireless device 212b, the wireless device 212b has to be connected to a connection point 230 of a fixed network and authenticated in this fixed network so that the reliable information comprised into the wireless signal 214b confirms that the wireless device is effectively located into a predetermined geographical environment.

[0057] In the third example of an embodiment of the special area location monitoring means (not illustrated in figure 2), the reliable information comprised into the wireless signal confirms that the wireless device is effectively located into a predetermined physical environment defined by the operator of the mobile telephone network when:

the wireless device is physically connected to a system registered and authorised by the mobile telephone network operator for the purposes of the invention and

the wireless device is authenticated into the mentioned system.

[0058] In a particular example of this embodiment some parameters are stored into the wireless device during its configuration stage and such parameters are used by the wireless device to perform the referred authentication process into the system. This system may be, in an example, embedded in a mobile device such as a car or a boat.

[0059] More precisely, Figure 2 shows a geographical area 202 covered by a mobile telephone network of an operator, the radio coverage of the mobile telephone network in this geographical area 202 being the addition of the radio coverage of several base stations 205 and 207. The mobile telephone network includes a server according to the invention comprising special operating means. In this embodiment, a wireless device 212 is located in a geographical environment agreed between the operator and the user, such as for example near to the user's house or near his/her work place. The wireless device 212b is located either into a geographical environment, such as for example the user's home, or into a physical environment, which may be mobile, such as for example the user's car, such environments being agreed between the operator and the user.

[0060] The checking data associated to a special area is stored into an internal mobile station database included in a memory (storing means) of a mobile station 200 associated to this special area.

[0061] Processing means comprised in the mobile station 200 compare any wireless device identification data received with the checking data stored in its internal mobile station database and determines that a wireless signal received is adistinctive wireless signal when:

such wireless signal is coded in a format predefined for a distinctive wireless signal and

the wireless device identification data comprised into the wireless signal is equal to at least one of the wireless device identification data stored into the internal mobile station database and

the reliable information comprised into the wireless signal confirms that the wireless device is effectively located into a predetermined environment.

[0062] Otherwise the mobile station 200 determines that the wireless signal received is not a distinctive wireless signal.

[0063] In the embodiment illustrated by the figure 2, the sum of the coverage (203,203b) of the wireless devices 212 and 212b transmitting distinctive wireless signals 214 and 214b defines a special area for the mobile station 200 according to the invention.

[0064] Transmission means for sending an updating signal regarding the presence of the mobile station 200 in the special area (203, 203b) from the processing means to the special operating means are partly comprised in the mobile station 200 and in the mobile telephone network. The updating signal may comprise the result of the last determination performed by the mobile station about its presence into the special area. In another embodiment, the reliable information related to whether or not the wireless device 212 or 212b is or not effectively located into its predetermined environment is also included into the updating signal.

[0065] In this embodiment, an operator of a mobile telephone network covering a geographical area 202 may offer cheaper rates, called special billing rates, to the user of a mobile station 200 if he uses his/her mobile station 200 within the range of coverage 203 of the wireless device 212 (position (a) of the mobile station 200) or within the range of coverage 203b of the wireless device 212b (position (b) of the mobile station 200).

[0066] As an example, a mobile telephone network operator can use this embodiment of the invention to offer one set of special billing rates in premises associated to the

user of the mobile station 200 as may be houses, cars or boats, and another set of normal billing rates for the rest of the environments where the user may use the mobile station 200. Another example of the application of this embodiment of the invention is for a mobile telephone network operator to offer normal billing rates for the whole country except in industrial areas, airports or restaurants.

[0067] Figure 3 is a schematic diagram illustrating an example of another embodiment of a mobile system according to the invention wherein the radio communication defining device is a base station, the radio defining signal that defines the special area is a distinctive base station identity signal comprising an identification code that identifies this base station, the checking data includes a set of at least one base station identification code.

[0068] Figure 3 shows a geographical area 302 covered by a mobile telephone network of an operator, the radio coverage of the mobile telephone network in this geographical area 302 being the addition of the radio coverage 304 and 306 of several base stations 305 and 307. The mobile telephone network includes a server according to the invention comprising special operating means.

[0069] Any mobile station 300 whose presence in the special area is monitored includes observing means and processing means for observing and processing the base station identity signal of the mobile telephone network base stations 305 and 307.

[0070] The checking data is stored into an internal mobile station database included in a memory (storing means) of a mobile station 300 associated to this special area.

[0071] Processing means of the mobile station 300 process the base stations identity signals received and compare their base station identification codes to the checking data and determine that at least one distinctive base station identification code signal is received (i.e. the mobile station 300 is in position (a)) when any of the base station identification codes received is equal to at least one of the base 17station identification codes stored into the internal mobile station database and otherwise determine that it is not receiving any distinctive base station identification code signal (i.e. the mobile station 300 is in position (b)).

[0072] For example, when a GSM mobile station is operating into a GSM mobile telephone network, the GSM mobile station 300 receives the identification code of the active base station and also the identification codes of some available neighbours base stations. The GSM mobile station 300 may consequently process the base station identification codes received to determine, together with the checking data, whether or not it is receiving any distinctive base station identification code signal.

[0073] The sum of the coverages 304 of the base stations 305 transmitting distinctive base station identification code signals defines a special area for the mobile station 300 according to the invention.

[0074] In this embodiment, an operator of a mobile telephone network covering a geographical area 302 may offer special services to the user of a mobile station 300 if he uses his/her mobile station 300 within the range of coverage of the base stations 305.

[0075] As an example a mobile telephone network operator can use this embodiment of the invention to offer one set of normal billing rates in an urban environment of a country, and another set of special billing rates for a rural environment. Another example of the application of this embodiment of the invention is for a mobile telephone network operator to offer normal billing rates for the whole country except in industrial areas or small towns.

[0076] Any combination of the embodiments of a mobile system according to the invention described herein is another embodiment here below of a mobile system according to the invention. That combination can be the result from 'N' different distinctive defining signals, each one comprising a different special mobile telephone network identification code or a different wireless device identification data or a different base station identification code..

[0077] For example, the mobile telephone network operator can then propose 'N' different sets of rates for 'N' different kinds of special areas for a given mobile station. In an example, an operator installs in the user's house a wireless device whose position is controlled by being or not in the range of coverage of a particular base station of the mobile network, another wireless device whose-• position is controlled by its

connection to a fix network in the user's holiday cottage and a third wireless device whose position is controlled by its connection to a system embedded in the user's car. The operator creates a special mobile telephone network identification code transmitted by the all the base stations of the user's city. Then the operator stores in the storing means of the user's mobile station the three wireless devices identification data, the user's city special mobile telephone network identification code and several sets of base stations identification codes, each set being the setof identification of base stations covering public places like airports and train stations. Then, the operator can adapt the tariffs charged and the services provided to the user depending notably whether his/her mobile station is in its city or outside, in its house, holiday cottage or car and / or in public places.

[0078] An embodiment of a method for monitoring the presence of a mobile station in atleast one special area according to the invention may include at least three parts:

a first part, illustrated in figure 4, that includes the steps needed to successfully transmit, store, erase and maintain checking data in a mobile station according to the invention,

a second part, illustrated in figure 5, that includes the steps needed for the mobile station to monitor its location in the special areas using the checking data that were transmitted to it and

a third part, illustrated in figure 6 and 7, that includes the adaptation of the operational parameters depending on the presence of the mobile station in any special area where this mobile station is monitoring its presence.

[0079] This embodiment of such method according to the invention may be carried out for example using any of the embodiments of mobile systems according to the invention described before.

[0080] Figure 4 is a flowchart of the first part 400 of a method according to one embodiment of the invention for successfully transmit, store, erase and maintain checking data in a mobile station according to the invention.

[0081] A mobile telephone network comprises in this embodiment data processing means that includes special operating means; the special operating means are included in a server and therefore are advantageously centralised and not distributed between each base station of the mobile telephone network.

[0082] An operator of a mobile telephone network (i.e. the company that operates this mobile telephone network) wishes to propose special billing rates and/or special services to users of its mobile telephone network, each user carrying a mobile station, when said users are within special areas of the invention.

[0083] The part 400 of this embodiment starts in step 402 when the operator wishes to monitor the presence of a mobile station in a special area.

[0084] In step 404, the operator defines a new special area if the operator wishes to create a new one. The special areas may be agreed between the operator and the user or simply defined by the operator.

[0085] The definition of the special area can be done by the coverage of one or several radio defining signals or by the intersection of the coverage of two or more radio defining signals.

[0086] In step 406, the operator updates a parameters database included in the special operating means. The parameters database associates each special area defined with the mobile stations whose presence in such special area is monitored. For the purposes of such association, each mobile station is identified into the parameters database by means of a mobile station identifier. In the parameters database, each mobile station identifier is associated with special tariffs and/or services which may be or not available for the mobile station depending on the presence of such mobile station into a given special area (and also depending on whether such tariffs and/or services are enabled or disabled into the parameters database for such mobile station).

[0087] The operating parameter(s) that may be adapted depending on the presence of the mobile station in one or more special areas at the same time may be notably related to activation or deactivation flags of tariffs and/or services provided to the mobile station by the mobile telephone network. Therefore, tariffs may be more or less

expensive for the said mobile station in predetermined special areas and / or the mobile station may be able or unable to use predetermined services offered by the operator of the mobile telephone network in predetermined special areas.

[0088] In step 408, the special operating means send a checking data to the mobile 15 station.

[0089] The checking data transmission can notably be done:

1) by sending the checking data stored in a server of the mobile telephone network to the mobile station through the mobile telephone network transmission channels. In a particular example, the mobile telephone network is a GSM network and the checking data from the server will be sent to the mobile station via encrypted short messages using an 'Over the Air' platform. The mobile station is able to decode the short messages and to store the checking data into an internal mobile station database,

2) through the use of a mobile station special software able to store into an internal mobile station database checking data obtained by the mobile station from at least one radio communication defining device. In a particular example, it may be necessary that an operator's representative introduces a password to allow the mobile station special software to operate. The mobile station special software may ask the operator's representative to validate the storage of the checking data through the mobile telephone keyboard,

3) or via a person (e.g. an operator's representative) who enters the checking data into the mobile station using the mobile station keyboard.

[0090] Regarding the second option, two examples are provided. In a first example, the mobile station is operating in a GSM network, the mobile station obtains from the active cell its cell identification code and from other neighbouring cells, if available, their cell identification codes. When the special software is run for example in the user's home, it is able to obtain such cells identification codes and store them in the internal mobile station database of checking data, associating them with the user's home special area.

[0091] In a second example, the mobile station can obtain, by using a WIFI device embedded into the mobile station, neighbouring WIFI devices identification data. When the special software is run for example in the user's home, it is able to obtain such WIFI device identification data and store them in the internal mobile station database of checking data, associating them with the user's home special area.

[0092] Once the checking data has been successfully stored into the internal mobile station database, a confirmation of new checking data is sent to the parameters database. In addition, notably regarding to the second and third options to transmit checking data to the mobile station, the stored checking data may be sent by the mobile station to the parameters database through the mobile telephone network for the mobile telephone network to know this checking data..

[0093] In step 410, the special operating means wait for the confirmation of new checking data from the mobile station. Once the information is received, it is stored into the parameters database and the special operating means transmit an acknowledgment to the mobile station. In case the mobile station does not receive the acknowledgment after a certain time, the mobile station sends the confirmation of new checking data again until it receives the acknowledgment or until it resents the information up to a maximum number of times.

[0094] It is advantagenous to store the checking data into themobile station, mainly in comparison to the prior art where it was necessary to store mobile station identity codes and/or activation signals into a fix unit.

[0095] If the confirmation of new checking data is not received (possibility 412) by the special operating means, the special operating means transmit again the checking data to the mobile station (step 408).

[0096] When the confirmation of new checking data from the mobile station is received (possibility 414) by the special operating means, the special operating means know in step 416 that the mobile station updated its internal mobile station database and the internal mobile station database is in accordance with the operator wishes.

[0097] After the first special area checking data or set of checking data is stored in the internal mobile station database, the operator can add more in the same way.

[0098] In another hand, in this embodiment of a method according to the invention, the operator can deactivate a special area following the steps 430 to 440.

[0099] In step 430, the operator chooses to deactivate a special area for a mobile station, with or without the agreement of the mobile station user. In step 432, the operator deactivates into the parameters database all the special tariffs and/or services associated to the presence of the mobile station into the special area. In step 434, the special operating means transmit a deactivation signal to the mobile station (using the mobile telephone network) asking the mobile station to erase, into itsinternal mobile station database, the checking data associated with the special area that the operator wishes to deactivate.

[00100] In another embodiment, the deactivation signal just blocks into the mobile station the use of the special area checking data but does not erase it. The result is the same: the deactivation signal avoids the mobile station recognising the special area(s) associated with this deactivation signal.

[00101] The transmission of the deactivation signal may be done notably as in the first and third options for transmitting the checking data (as seen in description of step 408).

[00102] Once the deactivation signal has been successfully received and processed by the mobile station, a confirmation of deactivation is sent to the parameters database. In step 436, the special operating means wait for the confirmation of deactivation from the mobile station. Once the confirmation of deactivation is received by the special operating means (possibility 440), this fact is stored into the parameters database and the special operating means transmit an acknowledgment to the mobile station. In case the mobile station does not receive the acknowledgment after a certain time, the mobile station sends the confirmation of deactivation again until it receives the acknowledgment or, in another embodiment, until it resents the confirmation of deactivation up to a maximum number of times.

[00103] If the confirmation of deactivation is not received (possibility 438) by the special operating means, the special operating means transmit again a deactivation signal to the mobile station (step 434).

[00104] When the confirmation from the mobile station regarding the successful reception and process of the deactivation signal is received (possibility 440) by the operating means, the operating means know in step 416 that the mobile station updated its internal checking data database and the internal mobile station database is in accordance with the operator wishes.

[00105] In another hand, in this embodiment of a method according to the invention, the operator can modify a special area following the steps 450 to 460 to adapt the
internal mobile station database to the operator's wishes. In step 450, the operator chooses to modify a special area for a given mobile station, with or without the agreement of the mobile station user, and defines such modified special area. For example, this can be done by including in the checking data associated to one special area, some additional checking data for the special area being not only the coverage of one distinctive defining signal but the intersection (or the sum) of the coverage of the former one and the coverage of a new one. This can be done too by erasing in a set of checking data associated to one special area, some checking data in order to, for example, transform a special area defined as the intersection (or the sum) of the coverage of two distinctive defining signals into a special area defined as the coverage of one only distinctive defining signal.

[00106] In case the operator wishes to add a new checking data (the steps for erasing one can be easily inferred by analogy), in step 452, the operator updates the parameters database in order to include, if known, the new checking data associated to the mobile station and the modified special area.

[00107] In step 454, the special operating means send, by using any of the three options for transmitting checking data described in step 408, the new checking data to the mobile station using the mobile telephone network.

[00108] Once the new checking data has been successfully stored into the part of the internal mobile station database that contains the checking data linked to the special area that has to be modified, a confirmation of modification of checking data is sent to the parameters database. In addition, typically regarding to the second and third options to transmit checking data to the mobile station described in step 408, the stored new checking data may be sent by the mobile station to the parameters database through the mobile telephone network. In step 456, the special operating means wait for the confirmation of modification of checking data from the mobile station. Once the confirmation of modification is received, this fact is stored into the parameters database and the special operating means transmit an acknowledgment to the mobile station. In case the mobile station does not receive the acknowledgment after a certain time, the mobile station sends the information again until it receives the acknowledgment or, in another embodiment, until it resents the information up to a maximum number of times.

[00109] If the confirmation of modification of checking data is not received (possibility 458) by the special operating means, the special operating means send again the new checking data to the mobile station (step 454).

[00110] When the confirmation of modification sent from the mobile station is received by the special operating means (possibility 460), the special operating means know that in step 416, the mobile station updated its internal checking data database and the internal mobile station database is in accordance with the operator wishes.

[00111] The second part of this embodiment of a method according to the invention is illustrated in figure 5 and includes the steps needed for the mobile station to monitor its location in the special areas using the checking data that were transmitted into it.

[00112] In step 500, a mobile station is switched on. In an embodiment, the mobile telephone network sets the values of the operating parameters managed in the parameters database to a set of initial values when the mobile station is switched off (as at that time it is not present in any special area) in order to start operating the mobile station when it is just switched on. In step 510, the mobile station observes, through the appropriate channel(s), any signal received and process it to determine

whether or not it is receiving any defining signal from . radio communication defining devices (e.g. from the base stations of a mobile telephone network or from wireless devices).

[00113] In one embodiment, the defining signal is coded (or part of the data contained in such a defining signal). In this embodiment, the mobile station is able to decode the information as part of the processing of the defining signals received.

[00114] A radio defining signal from a radio communication defining device may be transmitted on a continuous or periodical basis. The mobile station observation as to whether or not it is receiving any defining signal can be continuous or periodical. In step 512, the mobile station decide if it receives a defining signal (possibility 516) or not (possibility 514) after observing and processing any signal received.

[00115] When one or several defining signals are received, they are processed in step 518 by the mobile station notably in order to compare, in this embodiment, the appropriate part of their content with any checking data stored in the internal mobile station database.

[00116] When a defining signal received is from a wireless device (transmitted in a frequency range outside the frequency range allocated for the mobile telephone network), the mobile station preferably also search in step 518 whether or not the defining signal received contains reliable information confirming (or not) that the wireless device is effectively located into a predetermined environment defined by the operator of the mobile telephone network.

[00117] Then, in step 520, depending on the result of the internal process carried out in step 518, the mobile station decides whether (possibility 524) or not (possibility 522) the defining signal received is a distinctive defining signal that defines a special area for this mobile station, therefore validating or not the defining signal received as a distinctive defining signal.

[00118] If the special area is defined by the sum of the coverage of several distinctive defining signals, the mobile station has to recognize at least one of the three

distinctive defining signals at one time in order to determine that it is into this special area.

[00119] In another example, the mobile station knows that it is into a special area defined as the intersection of the coverage of several distinctive defining signals when it is observing and recognizing at one time all these distinctive defining signals.

[00120] The mobile station may be prepared to display a text or an icon (e.g. 'home' or airport' icon) when the mobile station determines that it is included in a particular special area for this mobile station.

[00121] In step 526, the mobile station sends and updating signal to the mobile telephone network about its presence in the special area.

[00122] In particular embodiment, the mobile station sends periodically (for example every 30 seconds) an updating signal about its presence into a special area, such updating signal comprising the result of the last determination performed by the mobile station about its presence into the special area.

[00123] In another particular embodiment the mobile station only sends to the mobile telephone network an updating signal about its presence into a special area when
it enters into or exit from such special area.

[00124] For a special area defined by the sum of the coverage of several distinctive defining signals:

If the mobile station processing of the defining signals received in a certain moment determines that at least one distinctive defining signal associated to this special area is received:

- If the previous processing of the defining signals received determined that no distinctive defining signal associated to this special area was received at that time then the mobile station interprets that it has recently entered into this special area.
- If the next processing of the defining signals received determines that at least one distinctive defining signal associated to this special area is still being

received then the mobile station interprets that it remains located into this special area;

- If the mobile station processing of the defining signals received in a certain moment determines that no distinctive defining signal associated to this special area is received:
- If the previous processing of the defining signals received determined that at least one distinctive defining signal associated to this special area was received at that time then the mobile station interprets that it has recently left this special area.
- If the next processing of the defining signals received determines that no distinctive defining signal associated to this special area is still being received then the mobile station interprets that it remains out of this special area.

[00125] For a special area defined by the intersection of the coverage of several distinctive defining signals a procedure equivalent to the one above can be easily inferred by analogy.

[00126] The updating signal may be sent through a diversity of channels provided by the mobile telephone network. For example, in a GSM mobile network, the updating signals can be sent using the USSD ('Unstructured Supplementary Service Data', GSM standards) channel. The data comprised into the updating signal will typically be coded by the mobile station and decoded by the special operating means of the server.

[00127] In this embodiment, the updating signals are sent from the mobile station to the special operating means of the mobile telephone network requesting an acknowledgement from the special operating means.

[00128] In step 530, the mobile station search for the acknowledgment from the special operating means.

[00129] If the acknowledgement is not received in the mobile station (possibility 532) because the updating signal does not reach the special operating means or the mobile station detects a failure in the transmission of the updating signal or there is a failure in the transmission of the acknowledgment, then the mobile station may send

the updating signal again up to a predetermined number of times according to a predefined retransmissions policy.

[00130] When the acknowledgment is received (possibility 531) into the mobile station, the mobile station knows in step 534 that the special operating means will make the appropriate adaptations in the operating parameters of the special areas database.

[00131] More generally, the special operating means area waiting for any updating signal from any mobile station whose identification code is into the parameters database. When the special operating means receive an updating signal from a mobile station, they then adapt the operational parameters of the special areas database that depend on the presence of this mobile station m a special area associated with this mobile station and send the acknowledgement.

[00132] In one embodiment, the updating signal contains a request to access to services and/or to download contents provided direct or indirectly by the mobile telephone network of the operator. Then, an access or downloading right is granted or denied by the mobile telephone network depending on the presence of the mobile station in a special area.

[00133] The acknowledgment signals of the updating signal from the special operating means are preferably coded. In that case, the mobile station processing means are able to decode the acknowledgments of the updating signals.

[00134] The operator of the mobile telephone network has therefore a guarantee that the mobile telephone network will know at least a change on the presence of the mobile station in one or more special areas even if the radio communication link between the mobile station and the mobile telephone network is temporarily unavailable.

[00135] In a particular embodiment the mobile telephone network may enable or disable to the mobile station to use predetermined services depending on the presence of the mobile station into a special area.

[00136] As an example, the mobile station may incorporate special checking software able to generate statistics about the use of the mobile telephone (phone calls, messages, etc.) into special areas. This software may be enabled for operation by the mobile telephone network when the mobile station enters into a predetermined special area and disabled when the mobile station exits such special area.

[00137] As another example, the mobile telephone network may broadcast certain messages associated to a special area (e.g. airport information). The mobile station can be enabled by the mobile telephone network to accept and display those broadcasted messages when it is located within this special area and disabled when it exits the special area.

[00138] The third part of this embodiment of a method according to the invention is illustrated in figures 6 and 7 and includes the adaptation of the operational parameters to the presence of the mobile station in any special area where this mobile station is monitoring its presence.

[00139] When the mobile telephone network receives an updating signal, the special operating means of the server adjust the value of at least one operating parameter of a parameters database linking the special area and the mobile station. The value of the operating parameter(s) depends on the information contained into the updating signal about the presence of the mobile station into the special area.

[00140] In a particular example, operating parameters related to a special tariff and some services are enabled or remains enabled into the referred parameters database when the information contained into the updating signal indicates that the mobile station has recently entered or remains located into the special area. In the same example, the special tariff and the services are disabled or remains disabled into the referred parameters database when the information contained into the updating signal indicates that the mobile station recently left or remains out of the special area.

[00141] More precisely, Figure 6 is a schematic illustration of an example of a part of the parameters database 600 of operating parameters included in the special operating means according to an embodiment of the invention. The illustrated part of the special operating means database 600 links two special areas SA1 606 and SA2

608 with 3 mobile stations identification codes MS(i-1), MS(i) and MS(I+1), each of which having an entry 603, 604 and 605.

[00142] The column 602 of the database comprises the mobile stations identification codes. A mobile station identification code refers to a code that is associated with the subscription of the mobile station user into the mobile telephone network. As an example, in a GSM network the referred mobile station identification code may be the MSISDN.

[00143] In this example, the set of checking data of mobile "station MS(i) for the special area SA1 606, defined in the column 610/606 of the entry 604 contains :

a checking data 650 comprised into the distinctive defining signal of a first base station BS1 (e.g. the identification code of BS1), such distinctive defining signal defines the special area SA1 606,

a checking data 652 comprised into the distinctive defining signal of a second base station BS2 (e.g. the identification code of BS1), such distinctive defining signal also defines the special area SA1 606, and a checking data 654 comprised into the distinctive defining signal of a wireless device WD1 (e.g. the identification data of WD1), such distinctive defining signal also defines the special area SA1 606,

for the special area SA1. The mobile station determines that it is located into the special area SA1 606 when it receives at least one of the three identifiers 650, 652, 654 comprised into the distinctive defining signals coming from BS1, BS2 and WD1, i.e. when it is located within the range of coverage of any of the three distinctive defining signals (according to one of the embodiments of the invention, in the case of the defining signal of WD1, in order to consider that such defining signal is a distinctive defining signal, it will additionally be necessary that the reliable information comprised into the defining signal confirms that WD1 is effectively located into a predetermined environment).

[00144] In this example, the value of column 611/606 for the mobile station MS(i) and for the special area 606 is enabled (`-i-') or disabled (`-') at a given time depending

on whether or not the mobile telephone network receives a confirmation of new checking data (see description of figure 4) from this mobile station confirming that all the checking data corresponding with the special area has been stored into this mobile station (based on the same principle, it would also be possible to add another column in the parameters database to monitor the reception of confirmations of deactivation of checking data and another one to monitor the reception of confirmations of modification of checking data for a given special area 32: see description of figure 4).

[00145] In this example, the value of columri 611/606 for MS(i) is enabled (+) for the special area SA1 606. In another example, the value of column 611/606 for themobile station MS (i) and for the special area 606 contains a set of values enabled (`+) or disabled ('-'), one for each checking data.

[00146] The column 612/606 corresponding to the operating parameter "Mobile Station Control Flag" is enabled ('+') or disabled (`-`) at a given time for the mobile station MS (i) and for the special area SA1 606 depending on the information comprised into the updating signals received about the presence of the mobile station into the special area 606. In this example, at a given time, the mobile station MS(i) is supposed to be in SA1 606 as the operating parameter "Mobile Station Control Flag" 612/606 is enabled (+1).

[00147] When the "Mobile Station Control Flag" is enabled (+) at a given time for the mobile station MS(i) and for the special area 606, certain tariffs or services related to such special area may be available for the user of the mobile station depending on the value (+) or (-) of the corresponding tariff or service flags for such mobilestation and special area into the operating parameters database. In this example, at a given time, in the column 'Tariff identifier' 614/606, the parameter is then set at 'XXX' and in the column 616/606, the 'Tariff Flag' is enabled (+). In the column 618/606, the 'Service identifier' parameter is then set at 'YYY' and in the column 620/606, the 'Service Flag' of said service 'YYY' is enabled ('+'). In the column 622/606, the 'Service identifier' parameter -is set at 2ZZ' and in the column 624/606, the 'Service Flag' of said service `ZZZ' is disabled ('-') because service ZZZ is disabled at that time for the mobile station MS(i) and the special area SA1 606.

[00148] The set of columns 610/608 to 624/608 provides the same kind of information for the special area SA2 608. The set of checking data of mobile station MS(i) (column 610/608) refers to wireless devices WD1 with the checking data 656, WD2 with the checking data 658 and WD3 with the checking data 660 for the special area SA2 608. In this special area, at that time, the value of column 611/608 for MS(i) is disabled (-), the operating parameter "Mobile Station Control Flag" (column 612/608) is disabled (`-`). Tariff 'PPP' (column 614/608) is enabled (`+' in column 616/608), service `QQQ' (column 6)8/608) is enabled ('+' in column 620/608) and service `RRR' (column 622/608) is enabled (`+' in column 624/608). The tariff PPP and the services QQQ and RRR are associated to mobile station MS(i) when it is in' the special area SA2 608.

[00149] In another embodiment of the invention, the special operating means are distributed into different servers of the mobile telephone network or of service providers associated with the mobile telephone network and an updating signal may be sent to any of those servers.

[00150] In a particular example of this embodiment, there will be a server containing a part of the special operating means that stores a pargmeters database (e.g. the database illustrated in figure 6) of operating parameters containing the special areas checking data. In this example part of the updating signals from the mobile stations may be sent to this server of the mobile telephone network and processed by the part of the special operating means that this server contains.

[00151] In this example there will be at least another server, called switch server, into the mobile telephone network or associated to it, server that is including another part of the special operating means that include another parameters database of operating parameters, called switch parameters database, that does not contain checking data. The part of special operating means included in this other server allows or forbids the provision of some multimedia contents and applications available to mobile stations (and may preferably provide them itself) depending on the presence, in any special area registered in this switch parameters database, of any mobile station associated with this special area in this switch parameters database.

[00152] Figure 7 illustrates an example of part of a switch parameters database 700 where 702, 703, 704, 705, 706, 708, 712/706 and 712/708 have the same meaning than respectively 602, 603, 604, 605, 606, 608, 612/606 and 612/608 of Figure 6. The contents and applications 'AAA' are available to the mobile station MS(i) when it is into the special area SA1 706. The contents and applications 'BBB' are available to the mobile station MS(i) when it is into the special area SA2 708.

[00153] In the example of figure 7, the part of the special operating means included into the switch server receives, embedded into an updating signal from MS(i), a request to download a content or an application 'AAA', and the downloading right is granted because such updating signal from MS(i) also indicates (value '+' in column 712/706) that it is located in the special area 706 at that time.

[00154] In the same manner, in the example of figure 7, the-part of the special operating means included into the switch server receives, embedded into an updating signal from MS(i), a request to download a content or an application 'BBB', but the downloading right is not granted because such updating signal from MS(i) also indicates (value in column 712/708) that it is not located in the special area 708 at that time.

[00155] In some cases the switch server is entirely property of the mobile telephone network operator while in some others there is an agreement in place with a third party.

[00156] Although the present invention has been described in detail for purpose of illustration, it is understood that such detail is solely for that purpose, and variations can be made therein by those skilled in the art without departing from the scope of the invention. Thus, while the preferred embodiments of the method and of the mobile system have been described in reference to the environment in which they were developed, they are merely illustrative of the principles of the invention. Other embodiments and configurations may be devised without departing from the scope of the appended claims.

[00157] Further, although the embodiments of the invention describe with reference to the drawings comprise computer apparatus and proceqses performed in computer

apparatus, the invention also extends to computer programs, particularly computer programs on or in a carrier, adapted for putting the invention into practice. The program may be in the form of source code, object code, a code intermediate source and object code such as in partially compiled form, or in any other form suitable for use in the implementation of the processes according to the invention. The carrier may be any entity or device capable of carrying the program. For example, the carrier may comprise storage medium, such as a ROM, for example a CD ROM or a semiconductor ROM, or a magnetic recording medium, for example a floppy disc or hard disk. Further, the carrier may be a transmissible carrier such as an electrical or optical signal which may be conveyed via electrical or optical cable or by radio or other means. When the program is embodied in a signal which may be conveyed directly by a cable or other device or means, the carrier may be constituted by such cable or other device or means. Alternatively, the carrier may be an integrated circuit in which the program is embedded, the integrated circuit being adapted for performing, or for use in the performance of, the relevant processes.

CLAIMS

1-12 (Cancelled)

13. A method associated with the use of a mobile station and at least one radio communication defining device that transmits a distinctive defining signal that at least partly defines a special area by its coverage, the distinctive defining signal including data, the method comprising:

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the data, whether the one or more defining signals are one or more distinctive defining signals and to determine whether or not the mobile station is present in the special area; and

sending from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the special area, (iii) when the mobile station remains in the special area and (iv) when the mobile station remains outside the special area.

14. A method according to claim 13, wherein the updating signal comprises the result of a previous determination performed by the mobile station about the mobile station´s presence in the special area.

15. A method according to claim 13, wherein the frequency of the updating signal is different from the frequency of the distinctive defining signal.

16. A method according to claim 13, wherein the mobile station enables or disables one or more functions related to a presence related service upon receiving enabling or disabling instructions from the provider of presence related services.

17. A non-transitory computer readable medium storing computer readable program code for causing a processor of a mobile station to perform a method associated with the use of at least one radio communication defining device that transmits a distinctive defining signal that at least partly defines a special area by its coverage, the distinctive defining signal including data, the method comprising:

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the data, whether the one or more defining signals are one or

more distinctive defining signals and to determine whether or not the mobile station is present in the special area; and

sending from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the special area, (iii) when the mobile station remains in the special area and (iv) when the mobile station remains outside the special area.

18. A non-transitory computer readable medium storing computer readable program code according to claim 17 that further causes the processor to send the updating signal with information related to the result of a previous determination performed by the mobile station about the mobile station´s presence in the special area.

19. A non-transitory computer readable medium storing computer readable program code according to claim 17 that further causes the processor to enable or disable one or more functions in the mobile station related to a presence related service upon the mobile station receiving enabling or disabling instructions from the provider of presence related services.

20. A mobile station capable of receiving a distinctive defining signal from a radio communication defining device that at least partly defines a special area by its coverage, the distinctive defining signal including data, the mobile station comprising:

an electronic storage medium that stores at least a portion of the data; and

a processor adapted to process one or more defining signals to determine, based on the at least portion of the data, whether the one or more defining signals are one or more distinctive defining signals and to determine whether or not the mobile station is present in the special area, the processor further adapted to send from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the special area, (iii) when the mobile station remains in the special area and (iv) when the mobile station remains outside the special area.

21. A mobile station according to claim 20, wherein the processor is adapted to enable or disable one or more functions related to a presence related service upon the mobile station receiving enabling or disabling instructions from the provider of presence related services.

22. A method associated with a mobile station receiving first and second distinctive defining signals respectively from first and second radio communication defining devices, the first and second distinctive defining signals at least partly define first and second special areas, respectively, by their coverage, each of the first and second distinctive defining signals respectively including first and second data, the method comprising:

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the first data, whether the one or more defining signals are one or more first distinctive defining signals and to determine whether or not the mobile station is present in the first special area,

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the second data, whether the one or more defining signals are one or more second distinctive defining signals and to determine whether or not the mobile station is present in the second special area,

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the first special area, a first updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the first special area, the sending of the first updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the first special area, (iii) when the mobile station remains in the first special area and (iv) when the mobile station remains outside the first special area; and

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the second special area, a second updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the second special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the second updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the second special area, (iii) when the mobile station remains in the second special area and (iv) when the mobile station remains outside the second special area, the second updating signal being sent from the mobile station while the mobile station is determined to be in both the first special area and the second special area.

23. A method according to claim 22, wherein the first updating signal is sent with information related to the result of a previous determination performed by the mobile station about the mobile station´s presence in the first special area.

24. A method according to claim 22, wherein the second updating signal is sent with information related to the result of a previous determination performed by the mobile station about the mobile station´s presence in the second special area.

25. A non-transitory computer readable medium storing computer readable program code for causing a processor of a mobile station to perform a method associated with the mobile station receiving first and second distinctive defining signals that at least partly define a first and second special areas, respectively, by their coverage, each of the first and second distinctive defining signal respectively including first and second data, the method comprising:

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the first data, whether the one or more defining signals are one or more first distinctive defining signals and to determine whether or not the mobile station is present in the first special area,

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the second data, whether the one or more defining signals are one or more second distinctive defining signals and to determine whether or not the mobile station is present in the second special area,

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the first special area, a first updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the first special area, the sending of the first updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the first special area, (iii) when the mobile station remains in the first special area and (iv) when the mobile station remains outside the first special area; and

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the second special area, a second updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the second special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the second updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the second special area, (iii) when the mobile station remains in the

second special area and (iv) when the mobile remains outside the second special area, the second updating signal being sent from the mobile station while the mobile station is determined to be in both the first special area and the second special area.

26. A non-transitory computer readable medium storing computer readable program code according to claim 25 that further causes the processor to send the first updating signal with information related to the result of a previous determination performed by the mobile station about the mobile station´s presence in the first special area.

27. A non-transitory computer readable medium storing computer readable program code according to claim 25 that further causes the processor to send the second updating signal with information related to the result of a previous determination performed by the mobile station about the mobile station´s presence in the second special area.

ABSTRACT

Method for monitoring the presence of a mobile station in at least one special area, wherein a radio communication defining device transmits one radio distinctive defining signal that define the special area by its coverage, the mobile station processes a signal received in order to determine whether or not it is defining signal and more precisly a distinctive one that defines the special area, the mobile station sends an updating signal to a mobile telephone network, the network routes the updating signal to special operating means that adapt the value of an operating parameter. According to the invention, the special area is associated to the mobile station by transmitting to the mobile station a checking data used by the mobile station for determining whether or not the defining signal received is distinctive defining signal.

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APPLE INC.

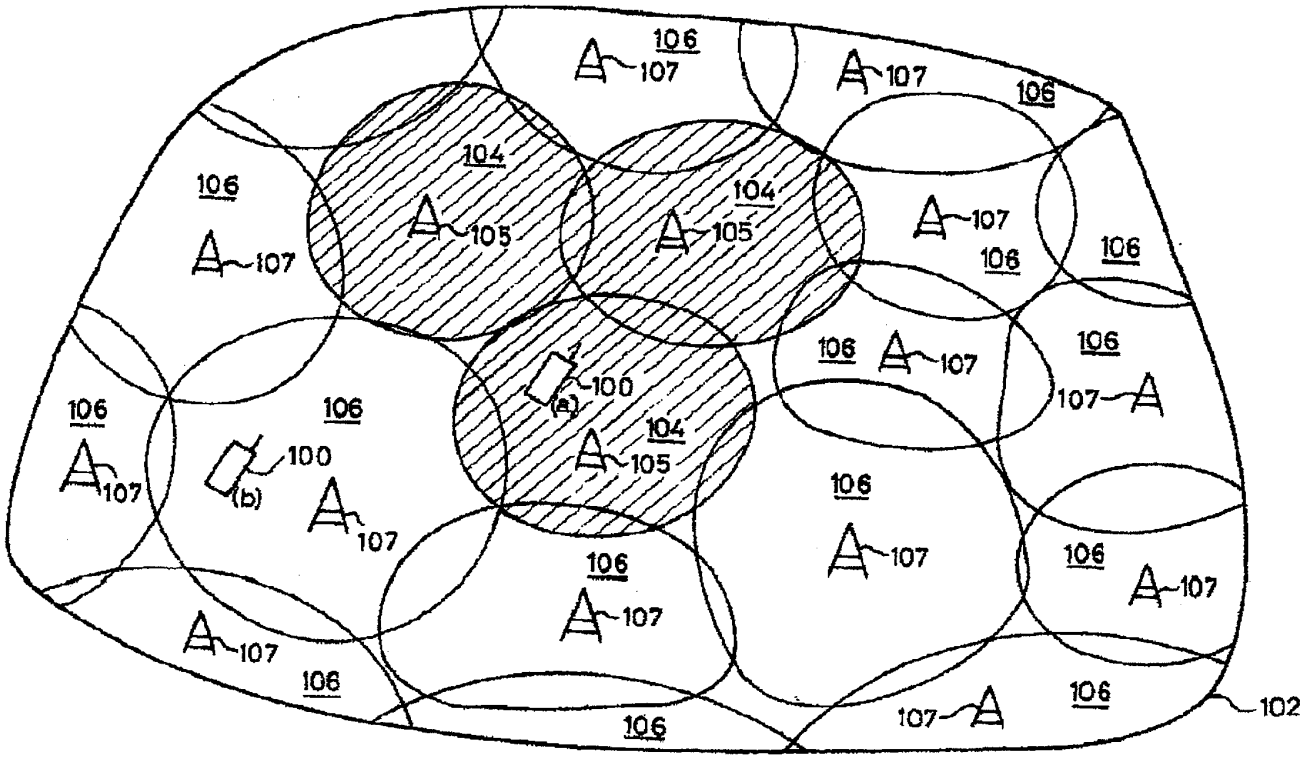
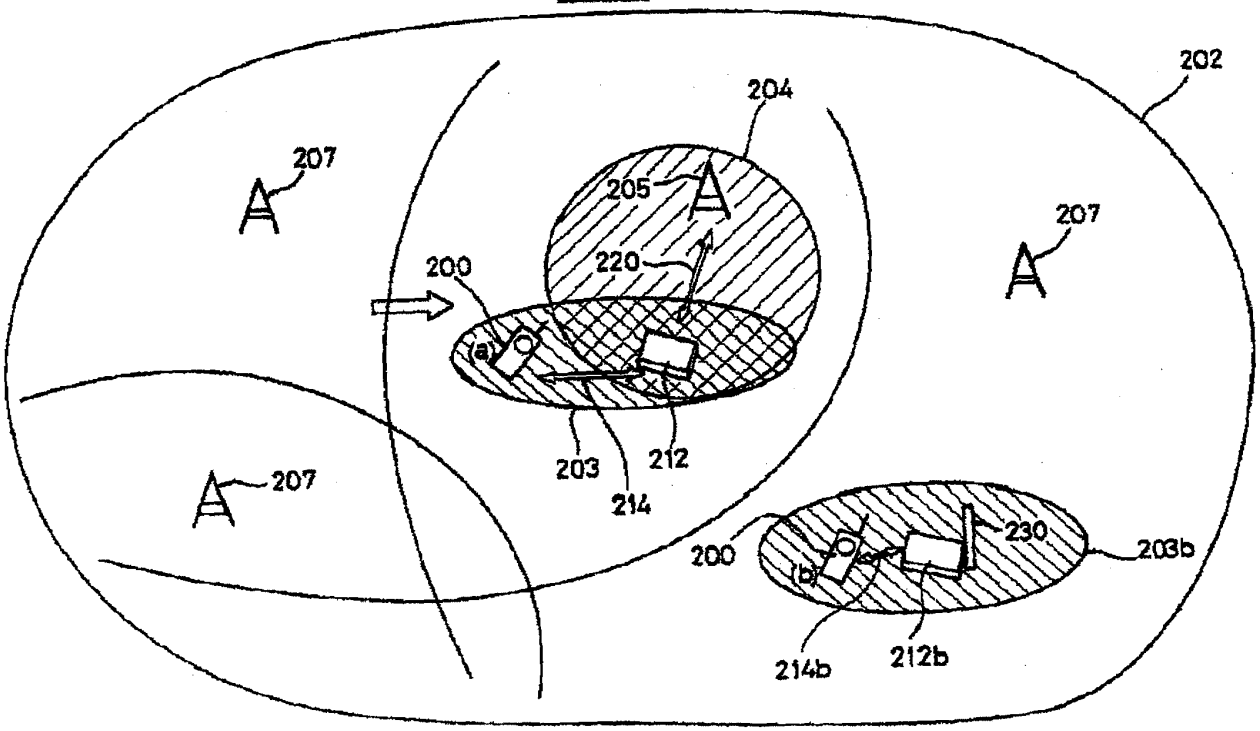


FIG_1

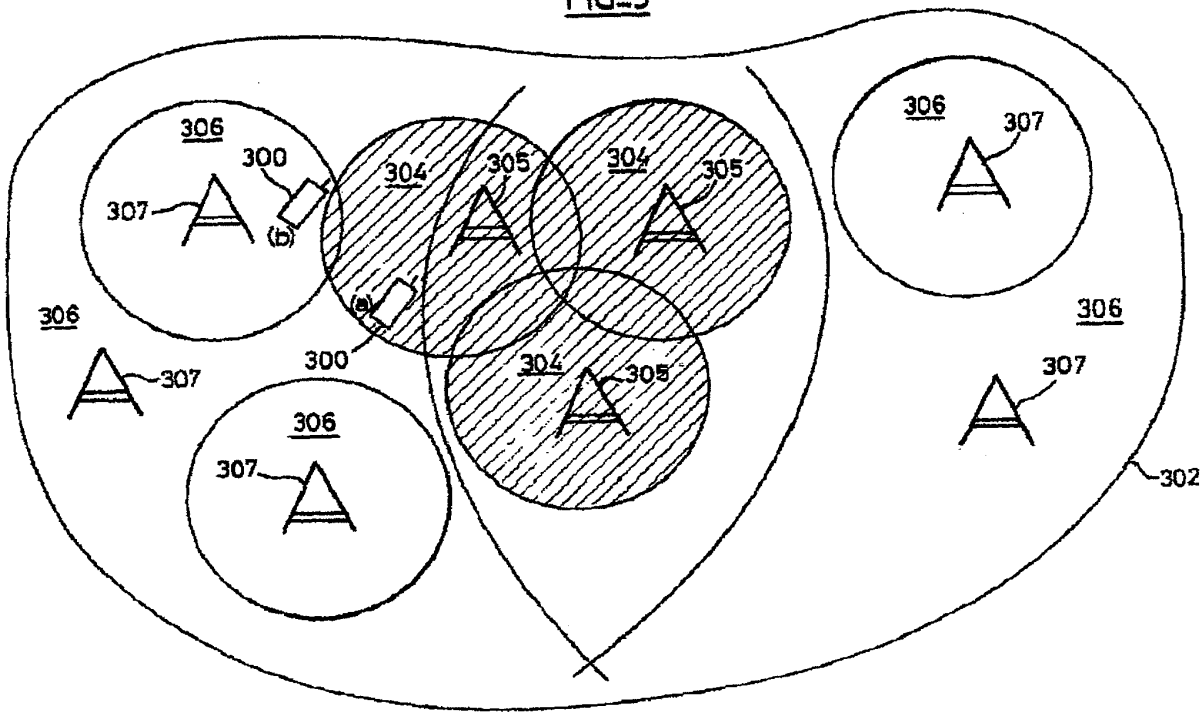
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FIG_2



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FIG_3



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FIG_4

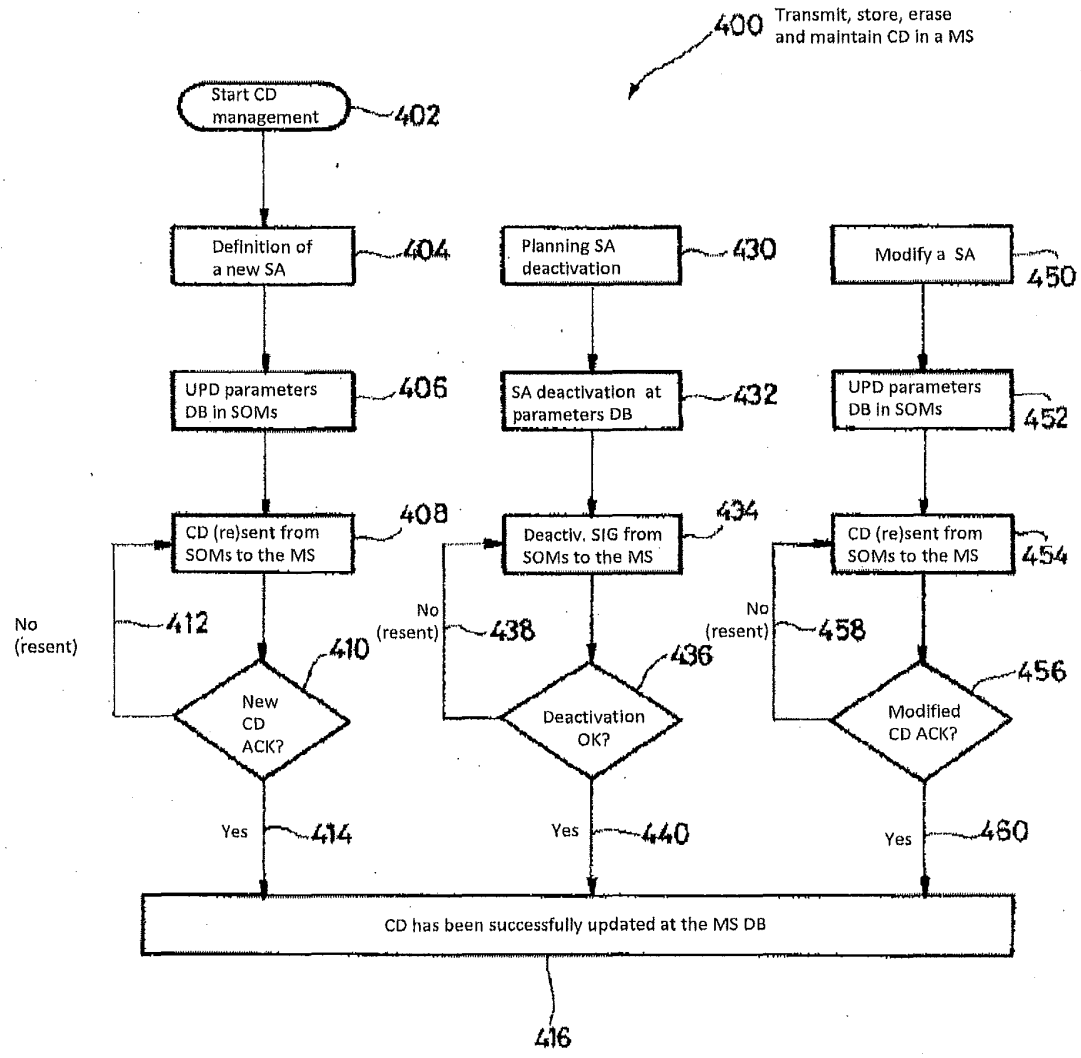

400
Transmit, store, erase and maintain CD in a MS
Start CD management
402
Definition of a new SA
404
UPD parameters DB in SOMs
406
CD (re)sent from SOMs to the MS
408
No (resent)
412
New CD ACK?
410
Yes
414
Planning SA deactivation
430
SA deactivation at parameters DB
432
Deactiv. SIG from SOMs to the MS
434
No (resent)
438
Deactivation OK?
436
Yes
440
Modify a SA
450
UPD parameters DB in SOMs
452
CD (re)sent from SOMs to the MS
454
No (resent)
458
Modified CD ACK?
456
Yes
460
CD has been successfully updated at the MS DB
416

FIG_5

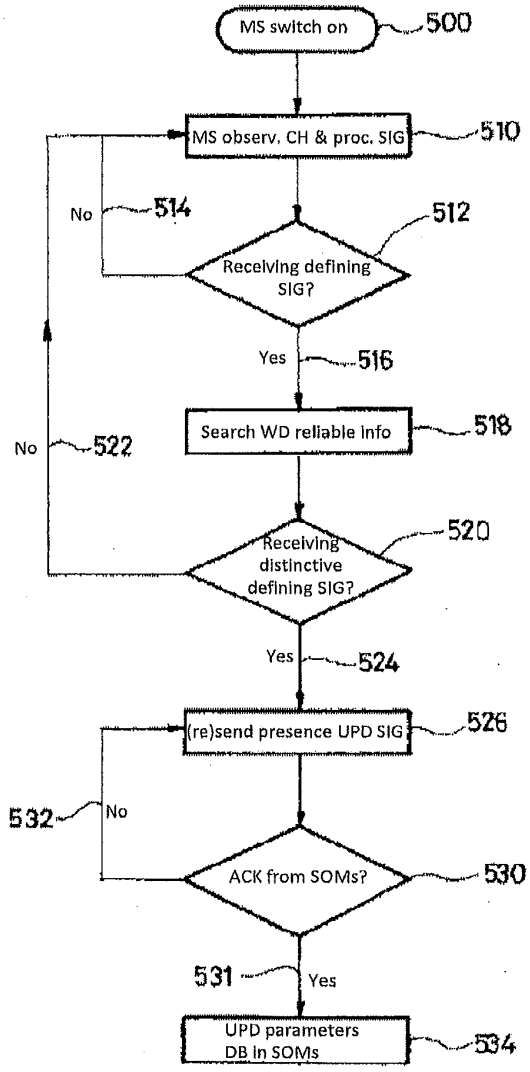
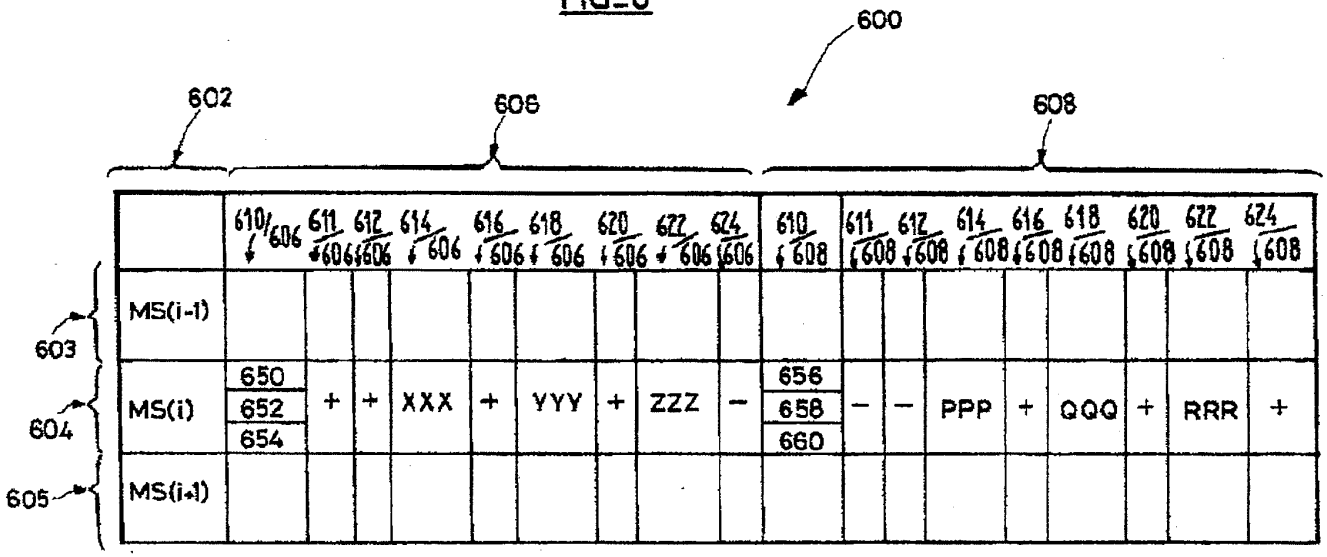
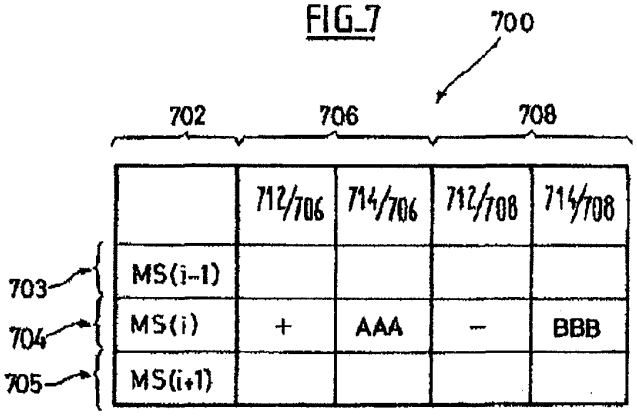

MS switch on
500
MS observ. CH & proc. SIG
510
No
514
512
Receiving defining SIG?
Yes
516
Search WD reliable info
518
No
522
Receiving distinctive defining SIG?
520
Yes
524
(re)send presence UPD SIG
526
532
No
ACK from SOMs?
530
531
Yes
UPD parameters DB in SOMs
534

FIG_6



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FIG_7


700
702
706
708
712/706
714/706
712/708
714/708
703
MS(i-1)
704
MS(i)
+
AAA
–
BBB
705
MS(i+1)

Electronic Patent Application Fee Transmittal

Application Number:	14250517
Filing Date:	11-Apr-2014
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Filer:	David M. Klecyngier/Tracie Reno
Attorney Docket Number:	122358-363771

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Request for Voluntary Publication or Rep	1803	1	130	130
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Application Number:	14250517
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Confirmation Number:	1071
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First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Customer Number:	26694
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Filer Authorized By:	David M. Klecyngier
Attorney Docket Number:	122358-363771
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Warnings:					
Information:					
2		363771_APPLICATION.pdf	215475 e27a63ff8bcde86c9bc099e1c41b8bc0f9abdb28	yes	40

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Document Description	Start	End
Specification	1	34
Claims	35	39
Abstract	40	40

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Information:					
3	Drawings-only black and white line drawings	DRWGS363771.pdf	147024 5e220cf78e05aae1ad89517ed667518bcea6bfb5	no	7
Warnings:					
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4	Fee Worksheet (SB06)	fee-info.pdf	30461 e4eaacd0e7dde31093419165ba3874b5f34cf558	no	2
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PTO/SB/08a (07-09)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	14/250,517-Conf. #1071
Filing Date	April 11, 2014
First Named Inventor	Carlos A. Perez Lafuente
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	122358-363771

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA*	US-8,723,664	05-13-2014	Rezvani et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
	BA	WO-0103372-A1	01-11-2001	Samsung Electronics Co., Ltd		

Examiner Signature		Date Considered	

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PTO/SB/08b (07-09)
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Sheet 2 of 2

Complete if Known	
Application Number	14/250,517-Conf. #1071
Filing Date	April 11, 2014
First Named Inventor	Carlos A. Perez Lafuente
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	122358-363771

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	CA	International Search Report issued in PCT/EP2007/052939 dated June 21, 2007	

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[1]Applicant's unique citation designation number (optional). [2]Applicant is to place a check mark here if English language Translation is attached.

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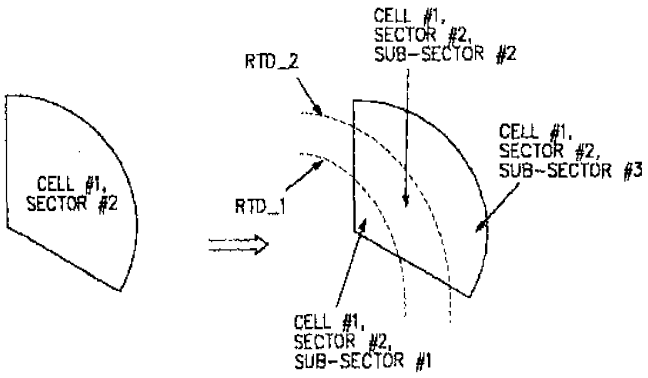
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(54) Title: HOME ZONE SERVICE METHOD FOR MOBILE TELEPHONE SUBSCRIBERS IN MOBILE RADIO COMMUNICATION SYSTEM



(57) Abstract: Disclosed is a home zone service method for assigning a specified zone to a mobile telephone subscriber and charging the subscriber at different billing rated accordingly as the subscriber makes a telephone call inside or outside the zone. According to the home zone service method, a zone which is defined by a first measurement value and a second measurement value as a sub-sector is determined by measuring a round trip delay from a fixed location in a sector of a cell to the neighbor base stations to which the subscriber belongs, so that a predetermined home zone database including the first value and the second value is prepared. The round trip delay is measured from a specified signal if a portable mobile terminal of the subscriber generates a request signal to establish a call connection. Then, it is determined whether the subscriber is located inside the sub-sector if the measured round trip delay falls between the first value and the second value of the home zone database.

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HOME ZONE SERVICE METHOD FOR MOBILE TELEPHONE SUBSCRIBERS IN MOBILE RADIO COMMUNICATION SYSTEM

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a home zone service for a portable mobile telephone subscriber within a mobile telecommunication network. More particularly, the present invention relates to a method for improving accuracy and performance in providing a home zone service.

2. Description of the Related Art

A home zone service is known as allocating a predefined zone, known as "home zone", so that a different charging rate can be applied to a mobile telephone subscriber, depending on whether the subscriber is located within the home zone when placing a call. Thus, a mobile subscriber can selectively designate a number of different home zones at a given time as the mobile subscriber moves from one geographic location to another geographic location.

If the vicinity of a subscriber's residential area were defined as the home zone service area, a service charge equivalent to a local wired telephone service can be applied to a mobile phone subscriber. But, if a call is made outside of the home zone, a higher charging rate corresponding to a radio telephone call rate is applied to the subscriber.

If a subscriber requests a home zone service, the boundary of the home zone is determined according to various factors, such as the position (latitude/longitude) of the base station with respect to the subscriber's address, the base station coverage area, the installation conditions of the base station, the multi-path characteristics of the base station area, etc.

With reference to Fig. 1, a cell site is divided into a plurality of sectors. Accordingly, a home zone can be defined to include the whole cell area (base station) or one of the sectors. In determining the home zone, however, the accuracy of home zone recognition is important to the service providers in terms of the amount of revenue they can generate. A minor error in determining the home zone boundary, causing the widening of the home zone boundary, can cost a significant revenue loss to the service providers. Thus, the ability to accurately recognize the home zone boundary when a subscriber originates (or terminates) a call within the home zone is important in boosting revenue for service providers.

SUMMARY OF THE INVENTION

Accordingly, the present invention has been made in an effort to solve the problems occurring in the related art, and an object of the present invention is to provide a home zone service method which can perform a more accurate way of determining whether a mobile subscriber is located within the home zone service when making a call connection.

In order to achieve the above object, according to the present invention, there is provided a home zone service method for associating a predetermined zone to a mobile telephone subscriber and charging the subscriber at different billing rates based on whether the subscriber makes a telephone call inside or outside the home zone. The method includes the steps of: associating a plurality of reduced charging areas with a mobile subscriber, wherein the boundary of reduced charging area is defined as a first measurement value and a second measurement value, and wherein the first value and the second value are measured based on a mean round trip delay from a plurality of locations within the sector of a cell site to which the subscriber is located in relation to the neighboring base stations, then preparing a home zone database including the measured first value and the second value; calculating a round trip delay of a request signal of the mobile subscriber to establish a call connection; and, determining whether the subscriber is inside the home zone if the calculated round trip delay falls between the first value and the second value retrieved from the home zone database.

According to one aspect of the present invention, if the mobile phone is located within the home zone, the subscriber is informed of whether he/she is located within the home zone.

According to another aspect of the present invention, the predetermined home zone data base is stored and retrieved from a data base management center.

BRIEF DESCRIPTION OF THE DRAWINGS

The above object and advantages of the present invention will become more apparent by describing the preferred embodiment in detail with reference to the attached drawings in which:

Fig. 1 is a view explaining the concept of a sector based home zone;

Fig. 2 is a view explaining the concept of a sub-sector based home zone according to the embodiment of the present invention;

Figs. 3A and 3B are other views explaining the concept of a sub-sector based home zone according to the embodiment of the present invention;

Fig. 4 is a table exemplifying a subscriber information database for the home zone service according to the embodiment of the present invention;

Fig. 5 is a flowchart illustrating the home zone identifying process performed directly by a subscriber according to the embodiment of the present invention; and,

Fig. 6 is a flowchart illustrating the home zone identifying process performed by a mobile terminal according to the embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Reference will now be made in greater detail to the preferred embodiment of the present invention. In the drawings, the same elements are denoted by the same reference numerals even though they are depicted in different drawings. For the purpose of clarity, a detailed description of well-known functions and configurations incorporated herein will be omitted as it may make the subject matter of the present invention unclear.

Fig. 2 is a view illustrating the concept of a sub-sector defining a home zone according to the embodiment of the present invention. A home zone can be defined based on a cell site (base station) or one of the sectors of the cell site. The home zone designated within the sector may be called a sub-sector based home zone, as shown in Fig. 2.

As illustrated in Fig. 2, a sector #2 of a cell #1 is divided into, for example, a plurality of sub-sectors #1 - #3. This division of a sector into different sub-sector zones is performed using a round trip relay (RTD) value. As an example, the division of the sub-sectors #1 and #2 is realized based on the RTD_1 boundary and the division of the sub-sectors #2 and #3 is realized based on the RTD_2 boundary. The calculation of the RTD_1 and the RTD_2 used to designate different home zones is discussed later in the specification.

Figs. 3A and 3B are other views illustrating the concept of determining a sub-sector based home zone according to the embodiment of the present invention.

As shown in Fig. 3A, if a subscriber 100 is position at a given location, a portion of the sector #2 of a cell #10 can overlap a portion of the sector #1 of a cell #11. As shown in Fig. 3B, the location of the subscriber can be overlapped by two different home zones. Thus, the subscriber 100 belongs not only to the sub-sector defined by the RTD_2max boundary and the RTD_2min boundary in the sector #2 of the cell #10, but it also belongs to the sub-sector defined the RTD_1max boundary and the RTD_1min

boundary in the sector #1 of the cell #11. Thus, if a subscriber 100 makes a telephone call in either of the two sub-sectors, a fee corresponding to a local call will be charged to the mobile phone subscriber.

Now, the process of calculating the RTD to define a home zone will be explained in detail.

If it is assumed that a circular home zone is determined to include a fixed region (for example, around the house of the mobile subscriber), the maximum and the minimum distance between the home zone and a neighboring base station can be defined according to a service provider or user. At this time, the minimum distance is the shortest distance among lineal distances leading from the base station to the inner boundary of the home zone. The maximum distance is the longest distance among lineal distances leading from the base station to the outer boundary of the home zone which is in the opposite direction of the inner boundary of the home zone. These distances can be determined using a round trip delay (RTD). The RTD represents the value obtained by dividing the distance by the propagating speed (i.e., C = 300,000Km/sec), then multiplying the divided value by 2 to counter for the turnaround distance. The base station measures the turnaround time by measuring the time during which a radio wave radiated from the base station reaches the mobile terminal and return back to the base station. This can be expressed by the following equation:

$$RTD\_i = 2 \times (D\_i / C).$$

Here, "i" represents 1 or 2, "D_i" represents a variable that represents a minimum distance when "i" is 1 and represents a maximum distance when "i" is 2.

In order to enhance the accuracy of the boundary of the home zone using the RTD values, the following complementary measures are further performed.

An approximate distance from the base station to the respective location can be linearly calculated. Since the turnaround time between the base station and the mobile terminal is calculated by a digital signal processor (DSP) of the base station, the RTD value can be obtained by dividing the calculated distance by the propagation speed then multiplying the divided value by 2. However, the radio wave is transmitted in a multipath characteristic environment. Thus, a delay time caused by the multipath characteristics of the radio wave can affect the RTD calculation. Typically, the delay time involved in similar background areas exhibit similar delay characteristic. Thus, in the embodiment of the present invention, the delay time involved in different background is collectively measured and their mean values are measured to create a database, which defines the reduced charging area. The delay times vary depending on different location where the mobile phone might be located, such as a downtown area, a

shopping center, apartment or factory building area, etc. Thus, using the previously determined database which accounts for various multipath characteristics, a more accurate RTD value can be obtained to define the home zone.

In order to provide a more accurate RTD, an initial database is added with a delay time obtained by collecting and averaging different delay times at a given rate between various locations and its neighboring base stations in a real world environment. Then, a mean RTD value can be obtained at a given location of the mobile phone. As part of the effort to determine an accurate RTD value, which is used to designate the reduced charging area, another factor is measured in deriving the test database. Since most users would tend to define their residential areas as the home zone to benefit the lower billing rate, the test database is obtained by estimating the time that the users will most likely be at their residence. For instance, since there is a greater possibility that the subscriber stays in his/her house during the time period between 24:00 to 06:00, the experimented mean RTD value is measured at this time duration.

Fig. 4 is a table exemplifying the subscriber information database for the home zone service according to the embodiment of the present invention. The database shows that two subscribers have been registered.

With reference to Fig. 2, the first subscriber, Mr. Gil-dong Hong, who resides in 123 Seohyun-Dong, Bundang-Ku, uses 0342-779-8180 as a local number inside the home zone and uses 011-779-xxxx as a mobile number outside his home zone. Mr. Hong's house is under the service provided by three neighboring base stations. The home zone registered by Mr. Hong is defined by the region within the range of 16 - 40 chips from an α sector of a base station 1. At this time, the values of 16 and 40 represent the minimum RTD and the maximum RTD, respectively, but the actual distance corresponds in the range of 8 - 20 chips from the base station since the RTD takes into account the round trip between the base station and the mobile phone. Thus, the home zone is associated in the range of 10 - 22 chips for the β sector of a base station 2 and in the range of 12 ~ 24 chips for the γ section of a base station 3. Here, the distance of one chip represents 245m, which is obtained by dividing the distance by the radio propagation speed, 300,000Km/sec, by the code division multiple access (CDMA) modulation frequency of 1.2244MHz.

Fig. 5 is a flowchart illustrating the home zone identifying process operated directly by the subscriber according to the embodiment of the present invention.

With reference to Fig. 5, a subscriber can directly dial the specified keys (for example, *89) of the mobile terminal to ascertain whether he/she is within the home zone using a mobile terminal MS. The dial information according to the above call is

transmitted to the base station BS (step 51). The base station receives the dial information and simultaneously calculates the RTD accordingly (step 52). Then, the base station transmits the dial information and the calculated RTD to a mobile switching center (step 53). The mobile switching center requests to retrieve the database from a database management center (DBM) and in turn receives the corresponding database from the DBM (steps 54 and 55). Here, for convenience, the DBM is used as a term which includes the home location registration (HLR), the visitor location registration (VLR), the location determination module, the service provision center (LDSPC), the customer care center (CCC), etc. Performing various operations among the HLR, VLR, LDSPC, and CCC and performing communication between the mobile switching center and the DBM should be obvious to those in this art.

Thereafter, the base station checks the service class of the subscriber, the maximum RTD value (RTDma) and the minimum RTD value (RTDmin) based on the retrieved database (step 56). The subscriber selects the service class when he/she requests the home zone service. Then, the subscriber can select the service either in the home zone only or both services including the home zone and the mobile zone, which is outside of the home zone.

If the subscriber is registered for the home zone service and requests such service, the base station, after checking that the subscriber qualifies for the home zone service based on the retrieved database, transmits a home-zone identifying signal to the mobile terminal through a traffic channel. If the condition is not satisfied, the base station transmits a non-home-zone identifying sound (step 57). At this time, the mobile terminal displays the information whether or not the current location of the mobile terminal is within the home zone, so that the subscriber can be informed (step 58).

Fig. 6 is a flowchart illustrating the home zone identifying process operated by a mobile terminal according to the embodiment of the present invention. The home zone identifying process enables the mobile terminal to identify whether the mobile terminal is located within the home zone and enables the mobile terminal to automatically display a deviation signal if the mobile terminal deviates outside of the home zone. Thus, the mobile station stores the home zone list (step 61).

The base station transmits the base station ID and the sector ID to the mobile terminal (step 62). Then, the mobile terminal ascertains whether the base station belongs to its home zone with reference to a home zone list (step 63) and transmits a location registration request if the base station belongs to the home zone (step 64). The base station receives the location registration request and simultaneously calculates the RTD (RTD1) accordingly (step 65). The mobile switching center transmits a location registration request, the base station information, and the calculated RTD (RTD1) to the DBM (step 66). At this time, the DBM transmits a response including a predetermined

base station information based on the home zone database to the mobile switching center. That is, information corresponding to the maximum RTD value (RTDmax) and the minimum RTD (RTDmin) relating to the subscriber is obtained (step 68). The mobile switching center checks whether the calculated RTD (RTD1) falls within the range between the maximum RTD (RTDmax) and the minimum RTD (RTDmin) based on the predetermined database (step 69). If the condition is satisfied, the mobile switching center transmits a home-zone identifying signal to the mobile terminal through the traffic channel (step 70a), while if the condition is not satisfied, the mobile switching center transmits a non-home-zone identifying signal to the mobile terminal (step 70b). Then, the mobile terminal displays whether its current location is located within the home zone to inform the subscriber (step 71).

As described above, the present invention has advantages in that it can perform a more accurate and efficient home zone service by determining whether the mobile terminal is located within the home zone by comparing the predetermined sector-based home zone range to the current location of the mobile terminal.

While this invention has been described in connection with what is presently considered to be the most practical and preferred embodiment, it is to be understood that other modifications thereof may be made without departing from the scope of the invention. Thus, the invention should not be limited to the disclosed embodiment but should be defined by the scope of the appended claims and their equivalents.

WHAT IS CLAIMED IS:

1. A method for determining whether the subscriber of a mobile phone is located within a home zone service to qualify for a different charging rate, comprising the steps of:

(a) measuring a round trip delay (RTD) from a plurality of testing locations within a sector of a cell site in relation to a plurality of neighboring base stations to determine a plurality of reduced charging areas with a mobile phone subscription, wherein the boundary of the reduced charging areas are defined by a first mean RTD value and a second mean RTD value;

(b) preparing a predetermined home zone database by associating the plurality of the reduced charging areas with the mobile phone subscription using the first value and the second value;

(c) calculating a round trip delay (RTD) if the mobile phone generates a request signal to establish a call connection; and,

(d) determining whether the measured RTD falls within a range between the first value and the second value associated with the mobile phone in the home zone database to determine whether the mobile phone is located within the home zone service.

2. The method as claimed in Claim 1, wherein the first value and the second value correspond to a minimum value and a maximum value of the round trip delay, respectively.

3. The method as claimed in Claim 1, further comprises the step of notifying the subscriber of the mobile phone if the mobile phone is located within the home zone service.

4. The method as claimed in Claim 1, wherein the step (c) further comprises the steps of:

receiving the request signal by a base station currently serving the mobile phone; and,

transmitting the calculated RTD to a mobile switch center in communication with the base station;

5. The method as claimed in Claim 1, wherein the step (d) further comprises the step of retrieving the predetermined home zone database from a database management center.

6. A method for determining whether a subscriber is making a call connection within a home zone area using a predetermined home zone database, which includes a first round trip delay value and a second round trip delay value defining the home zone area for a mobile phone subscriber, and wherein a different charging rate is

applied if a request for a call connection is made within the home zone area, the method comprising the steps of:

(a) transmitting, by the mobile phone, an originating signal to a base station to establish a call connection;

(b) upon receiving the originating signal, calculating a round trip delay (RTD) of the originating signal by the base station;

(c) transmitting, by the base station, the calculated round trip delay and the originating signal to a mobile switching center;

(d) determining, by the mobile switching center, whether the calculated round trip delay falls within a range between the first value and the second value associated with the mobile phone in the predetermined home zone database; and,

(e) if the measured RTD value falls within the first value and the second value, allocating a communication channel to the mobile phone by the base station.

7. A method for determining whether a subscriber is making a call connection within a home zone area using a predetermined home zone database, which includes a first round trip delay value and a second round trip delay value defining the home zone area for a mobile phone subscriber, and wherein a different charging rate is applied if a request for a call connection is made within the home zone area, the method comprising the steps of:

(a) transmitting, by the mobile phone subscriber, an originating signal to a base station to establish a call connection;

(b) upon receiving the originating signal, calculating a round trip delay (RTD) of the originating signal by the base station;

(c) transmitting, by the base station, the calculated round trip delay and the originating signal to a mobile switching center;

(d) determining, by the mobile switching center, whether the calculated round trip delay falls within a range between the first value and the second value associated with the mobile phone subscriber in the predetermined home zone database; and,

(e) if the calculated RTD value falls within the first value and the second value, transmitting a home zone identifying signal to the mobile phone subscriber by the mobile switching center.

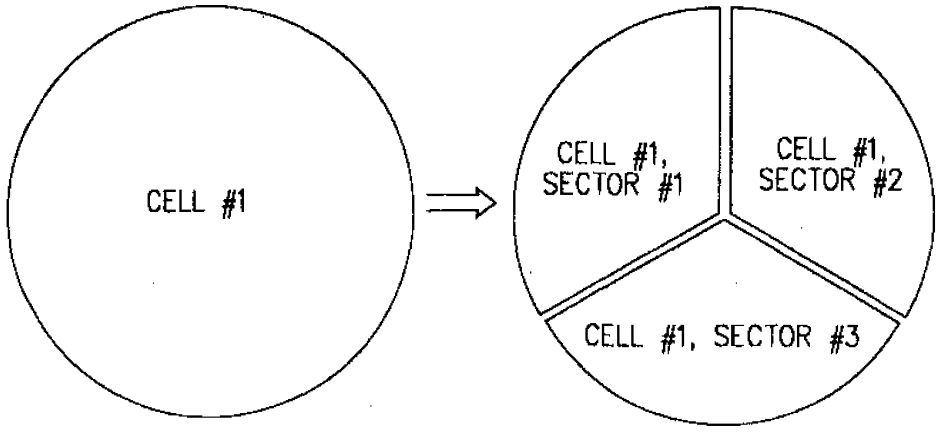

CELL #1
CELL #1, SECTOR #1
CELL #1, SECTOR #2
CELL #1, SECTOR #3

FIG. 1

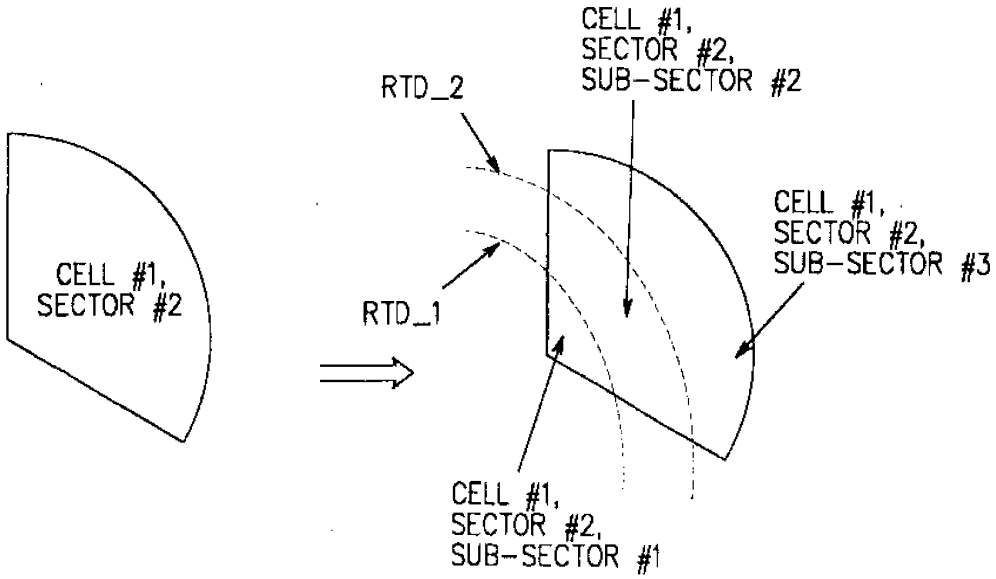

CELL #1, SECTOR #2
RTD_2
RTD_1
CELL #1, SECTOR #2, SUB-SECTOR #2
CELL #1, SECTOR #2, SUB-SECTOR #3
CELL #1, SECTOR #2, SUB-SECTOR #1

FIG. 2

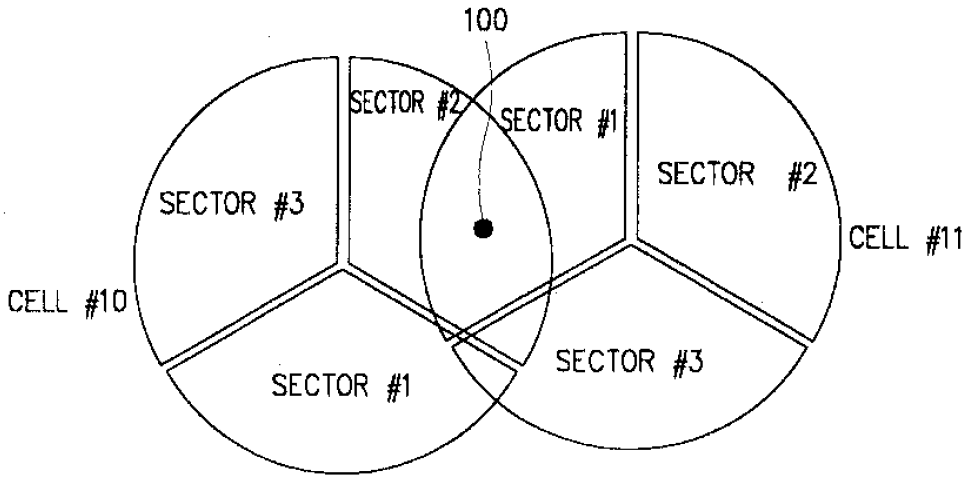

100
SECTOR #2
SECTOR #1
SECTOR #3
SECTOR #2
CELL #11
CELL #10
SECTOR #1
SECTOR #3

FIG. 3A

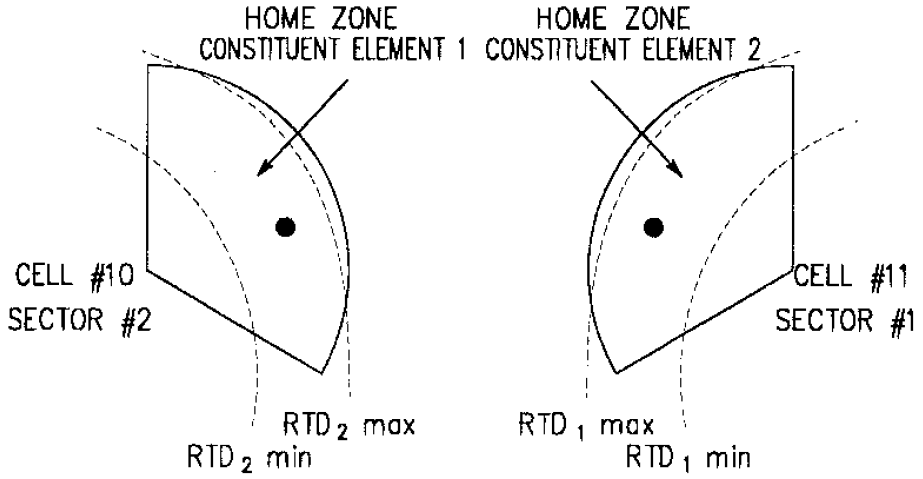

HOME ZONE
CONSTITUENT ELEMENT 1
HOME ZONE
CONSTITUENT ELEMENT 2
CELL #10
SECTOR #2
CELL #11
SECTOR #1
RTD 2 max
RTD 2 min
RTD 1 max
RTD 1 min

FIG. 3B

FIG. 4

NAME	ADDRESS	TELEPHONE NUMBER 1 (NSN)	TELEPHONE NUMBER 2 (MTN)	BASE STATION, SECTOR ID, RTD (MAX/MIN)		
GIL-DONG HONG	SEOHYUN-DONG, BUNDANG-KU	0342-779 -8180	011-779 -xxxx	1, α,16/40	1, β,20/44	3, γ,24/48
DU-SAN PAIK	HAMKYUNG-DO	0999-999 -9999	011-yyy -yyyy	3, α,10/34	4, β,10/34	5, γ,22/46

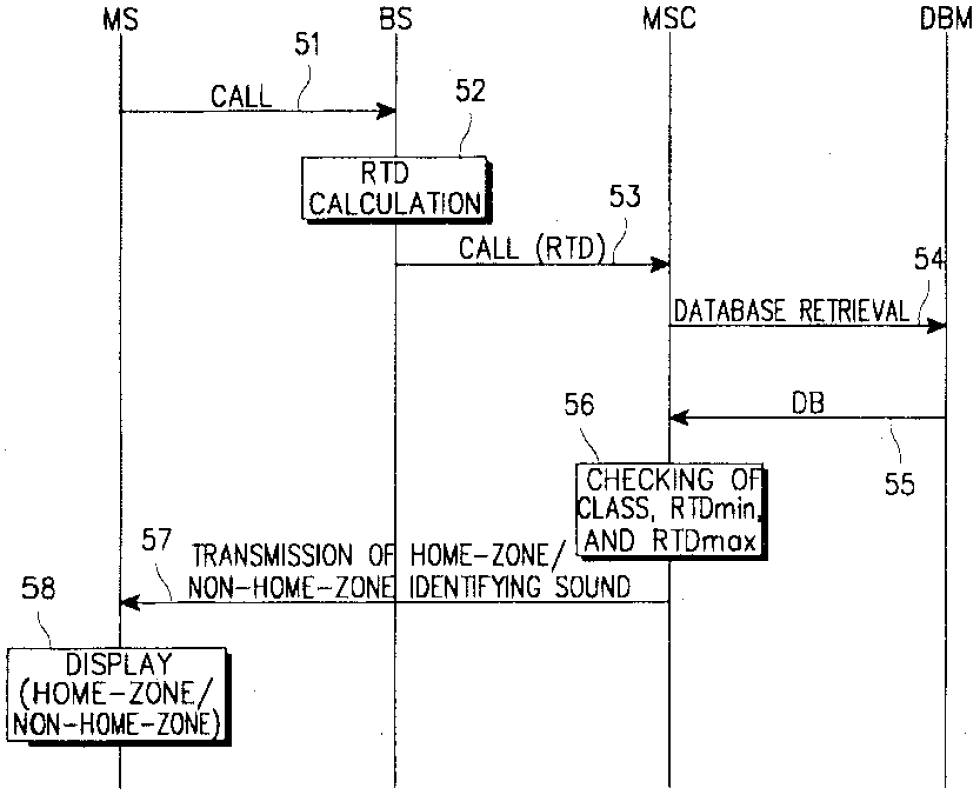

MS
BS
MSC
DBM
51
CALL
52
RTD CALCULATION
53
CALL (RTD)
54
DATABASE RETRIEVAL
56
DB
55
CHECKING OF CLASS, RTDmin, AND RTDmax
57
TRANSMISSION OF HOME-ZONE/ NON-HOME-ZONE IDENTIFYING SOUND
58
DISPLAY (HOME-ZONE/ NON-HOME-ZONE)

FIG. 5

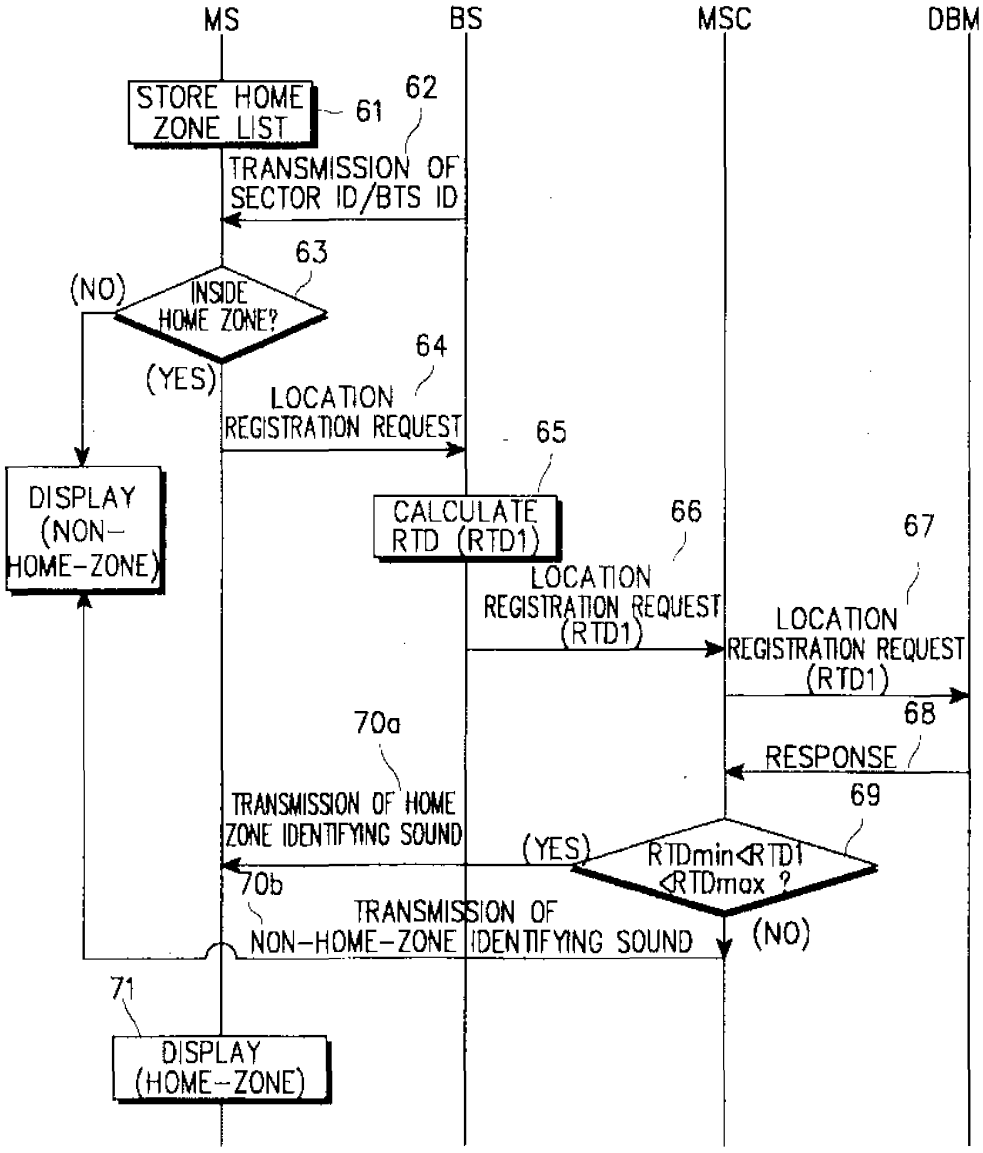

MS
BS
MSC
DBM
STORE HOME ZONE LIST
61
62
TRANSMISSION OF SECTOR ID/BTS ID
63
(NO)
INSIDE HOME ZONE?
(YES)
64
LOCATION REGISTRATION REQUEST
65
DISPLAY (NON-HOME-ZONE)
CALCULATE RTD (RTD1)
66
67
LOCATION REGISTRATION REQUEST (RTD1)
LOCATION REGISTRATION REQUEST (RTD1)
68
RESPONSE
70a
TRANSMISSION OF HOME ZONE IDENTIFYING SOUND
69
(YES)
RTDmin<RTD1<RTDmax ?
70b
TRANSMISSION OF NON-HOME-ZONE IDENTIFYING SOUND
(NO)
71
DISPLAY (HOME-ZONE)

FIG. 6

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR00/00712

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H04L 12/14

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

B. FIELDS SEARCHED

Minimun documentation searched (classification system followed by classification symbols)

IPC7 : H04L, H04Q, H04M

Documentation searched other than minimun documentation to the extent that such documents are included in the fileds searched

Korean Patents and Applications for Inventions since 1975
Korean Utiolty models and Applications for Utility models since 1975

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97/13397 10 April 1997 publicated : pp. 4 line 12 - line 23, pp. 7 line 4 - line 12	1 - 7 6 - 7
A	US 6,044,261 28 Mar 2000 : column 2, line 31 - line 44 column 3, line 46 - line 59 column 4, line 41 - line 48 column 5, line 47 - line 56	1 - 7

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:
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"E" earlier application or patent but published on or after the international filing date
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"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"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
"X" document of particular relevence; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevence; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents,such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 OCTOBER 2000 (12.10.2000)	16 OCTOBER 2000 (16.10.2000)

Name and mailing address of the ISA/KR	Authorized officer
Korean Industrial Property Office Government Complex-Taejon, Dunsan-dong, So-ku, Taejon Metropolitan City 302-701, Republic of Korea	LEE, Saang Woong
Facsimile No. 82-42-472-7140	Telephone No. 82-42-481-5714

Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/KR00/00712

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 97/13387 A	10 April 1997	9503521-8 SE	5 Oct 1995
US 6,044,261 A	28 Mar 2000	None	

Form PCT/ISA/210 (patent family annex) (July 1998)

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2007/052939

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04Q7/38 H04Q7/32

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)
H04Q

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

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 334 052 B1 (NORDSTRAND INGRID) 25 December 2001 (2001-12-25) abstract figures 2-5 column 1, line 51 - line 64 column 4, line 29 - line 50 column 5, line 17 - line 21 column 5, line 46 - column 6, line 3 column 7, line 10 - column 9, line 3 column 11, line 4 - line 10 column 12, line 10 - line 33 claim 1	1-17
X	WO 01/03372 A (SAMSUNG ELECTRONICS CO., LTD) 11 January 2001 (2001-01-11) abstract page 6, line 20 - page 7, line 11 figures 4-6	1-17

-/--

[X] Further documents are listed in the continuation of Box C. [X] 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

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
21 June 2007	29/06/2007

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Matt, Stefan

Form PCT/ISA/210 (second sheet) (April 2005)

Electronic Acknowledgement Receipt

EFS ID:	20172349
Application Number:	14250517
International Application Number:	
Confirmation Number:	1071
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Customer Number:	26694
Filer:	Jeffri Kaminski/l hayes
Filer Authorized By:	Jeffri Kaminski
Attorney Docket Number:	122358-363771
Receipt Date:	18-SEP-2014
Filing Date:	11-APR-2014
Time Stamp:	09:45:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	ids.pdf	84083 96c00a24287a9cfcb9c68675d35d520acc4ba807	no	2
Warnings:					
Information:					

2	Information Disclosure Statement (IDS) Form (SB08)	sb08.pdf	181097 604a5a93d8aaccc447345e774f0e61d2d0ac3e03	no	2
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3	Foreign Reference	WO0103372.pdf	347559 503df6d8a4e3654aa8c1204b12baad140e567d81	no	17
Warnings:					
Information:					
4	Non Patent Literature	ISR.pdf	28960 ec58bd555c5022b31eaf135c2dd63de83636fe0e	no	1
Warnings:					
Information:					
		Total Files Size (in bytes):	641699		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
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New International Application Filed with the USPTO as a Receiving Office
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Carlos A. Perez Lafuente	Art Unit: 2642
Application No: 14/250,517	Examiner: Not Yet Assigned
Confirmation No: 1071	
Filed: April 11, 2014	Atty. Docket No: 122358-363771
For: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	Customer No: 26694 PATENT & TRADEMARK OFFICE

SECOND INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

Pursuant to 37 C.F.R. § 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 C.F.R. § 1.97(b)(3)).

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), Applicant has not submitted copies of U.S. patents (documents **AA**) and U.S. patent applications. Applicant submits herewith copies of foreign patents (document **BA**) and non-patent literature (document **CA**) accordance with 37 C.F.R. § 1.98(a)(2).

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. § 1.56(a) exists. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

Document **CA** is an International Search Report for the related application PCT/EP2007/052939. Documents were cited in Document **CA**.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 22-0261, under Order No. 122358-363771.

Dated: September 18, 2014

Respectfully submitted,

By: /Jeffri A. Kaminski/
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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771

CONFIRMATION NO. 1071

26694
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WASHINGTON, DC 20043-9998

PUBLICATION NOTICE

OC000000070056605

Title:METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

Publication No.US-2014-0221007-A1
Publication Date:08/07/2014

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Carlos A. Perez Lafuente	Art Unit: 2642
Application No: 14/250,517	Examiner: Not Yet Assigned
Confirmation No: 1071	
Filed: April 11, 2014	Atty. Docket No: 122358-363771
For: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	Customer No: 26694 PATENT & TRADEMARK OFFICE

FIRST PRELIMINARY AMENDMENT UNDER 37 C.F.R. 1.115

MS Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

INTRODUCTORY COMMENTS

Prior to examination on the merits, please amend the above-identified U.S. patent application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 8 of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-12 (Canceled)

13. (New) A method associated with the use of a mobile station and at least one radio communication defining device that transmits a distinctive defining signal that at least partly defines a special area by its coverage, the distinctive defining signal including data, the method comprising:

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the data, whether the one or more defining signals are one or more distinctive defining signals and to determine whether or not the mobile station is present in the special area; and

sending from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the special area, (iii) when the mobile station remains in the special area and (iv) when the mobile station remains outside the special area.

14. (New) A method according to claim 13, wherein the updating signal comprises the result of a previous determination performed by the mobile station about the mobile station´s presence in the special area.

15. (New) A method according to claim 13, wherein the frequency of the updating signal is different from the frequency of the distinctive defining signal.

16. (New) A method according to claim 13, wherein the mobile station enables or disables one or more functions related to a presence related service upon receiving enabling or disabling instructions from the provider of presence related services.

17. (New) A non-transitory computer readable medium storing computer readable program code for causing a processor of a mobile station to perform a method associated with the use of at least one radio communication defining device that transmits a distinctive defining signal that at least partly defines a special area by its coverage, the distinctive defining signal including data, the method comprising:

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the data, whether the one or more defining signals are one or more distinctive defining signals and to determine whether or not the mobile station is present in the special area; and

sending from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the special area, (iii) when the mobile station remains in the special area and (iv) when the mobile station remains outside the special area.

18. (New) A non-transitory computer readable medium storing computer readable program code according to claim 17 that further causes the processor to send the updating signal with information related to the result of a previous determination performed by the mobile station about the mobile station´s presence in the special area.

19. (New) A non-transitory computer readable medium storing computer readable program code according to claim 17 that further causes the processor to enable or disable one or more functions in the mobile station related to a presence related service upon the mobile station receiving enabling or disabling instructions from the provider of presence related services.

20. (New) A mobile station capable of receiving a distinctive defining signal from a radio communication defining device that at least partly defines a special area by its coverage, the distinctive defining signal including data, the mobile station comprising:

an electronic storage medium that stores at least a portion of the data; and

a processor adapted to process one or more defining signals to determine, based on the at least portion of the data, whether the one or more defining signals are one or more distinctive defining signals and to determine whether or not the mobile station is present in the special area, the processor further adapted to send from the mobile station via a mobile telephone network an updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the special area, (iii) when the mobile station remains in the special area and (iv) when the mobile station remains outside the special area.

21. (New) A mobile station according to claim 20, wherein the processor is adapted to enable or disable one or more functions related to a presence related service upon the mobile station receiving enabling or disabling instructions from the provider of presence related services.

22. (New) A method associated with a mobile station receiving first and second distinctive defining signals respectively from first and second radio communication defining devices, the first and second distinctive defining signals at least partly define first and second special areas, respectively, by their coverage, each of the first and second distinctive defining signals respectively including first and second data, the method comprising:

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the first data, whether the one or more defining signals are one or more first distinctive defining signals and to determine whether or not the mobile station is present in the first special area,

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the second data, whether the one or more defining signals are one or more second distinctive defining signals and to determine whether or not the mobile station is present in the second special area,

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the first special area, a first updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the first special area, the sending of the first updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the first special area, (iii) when the mobile station remains in the first special area and (iv) when the mobile station remains outside the first special area; and

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the second special area, a second updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the second special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the second updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the second special area, (iii) when the mobile station remains in the second special area and (iv) when the mobile station remains outside the second special area, the second updating signal being sent from the mobile station while the mobile station is determined to be in both the first special area and the second special area.

23. (New) A method according to claim 22, wherein the first updating signal is sent with information related to the result of a previous determination performed by the mobile station about the mobile station´s presence in the first special area.

24. (New) A method according to claim 22, wherein the second updating signal is sent with information related to the result of a previous determination performed by the mobile station about the mobile station´s presence in the second special area.

25. (New) A non-transitory computer readable medium storing computer readable program code for causing a processor of a mobile station to perform a method associated with the mobile station receiving first and second distinctive defining signals that at least partly define a first and second special areas, respectively, by their coverage, each of the first and second distinctive defining signal respectively including first and second data, the method comprising:

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the first data, whether the one or more defining signals are one or more first distinctive defining signals and to determine whether or not the mobile station is present in the first special area,

receiving and processing one or more defining signals in the mobile station to determine, based on a previously obtained at least portion of the second data, whether the one or more defining signals are one or more second distinctive defining signals and to determine whether or not the mobile station is present in the second special area,

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the first special area, a first updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the first special area, the sending of the first updating signal being uncorrelated to any mobile station phone call establishment, the updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the first special area, (iii) when the mobile station remains in the first special area and (iv) when the mobile station remains outside the first special area; and

sending from the mobile station via a mobile telephone network, when the mobile station determination refers to the second special area, a second updating signal to one or more servers of a provider of presence related services about the mobile station´s presence in the second special area, the sending of the updating signal being uncorrelated to any mobile station phone call establishment, the second updating signal being sent at least one of (i) periodically, (ii) at times recent to when the mobile station enters into or exists from the second special area, (iii) when the mobile station remains in the second special area and (iv) when the mobile remains outside the

second special area, the second updating signal being sent from the mobile station while the mobile station is determined to be in both the first special area and the second special area.

26. (New) A non-transitory computer readable medium storing computer readable program code according to claim 25 that further causes the processor to send the first updating signal with information related to the result of a previous determination performed by the mobile station about the mobile station´s presence in the first special area.

27. (New) A non-transitory computer readable medium storing computer readable program code according to claim 25 that further causes the processor to send the second updating signal with information related to the result of a previous determination performed by the mobile station about the mobile station´s presence in the second special area.

REMARKS

Claims 13-27 are now pending in this application. Claims 1-12 are canceled without prejudice or disclaimer. Favorable reconsideration is requested.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Dated: June 26, 2014

Respectfully submitted,

By: /Jeffri A. Kaminski/
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Attorney/Agent For Applicant

Electronic Acknowledgement Receipt

EFS ID:	19416804
Application Number:	14250517
International Application Number:	
Confirmation Number:	1071
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Customer Number:	26694
Filer:	Jeffri Kaminski/l hayes
Filer Authorized By:	Jeffri Kaminski
Attorney Docket Number:	122358-363771
Receipt Date:	26-JUN-2014
Filing Date:	11-APR-2014
Time Stamp:	10:09:21
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		preamendment.pdf	102851 72a4ced739802c6a09183535bef2e31eaa4546fb	yes	8

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Preliminary Amendment	1	1
	Claims	2	7
	Applicant Arguments/Remarks Made in an Amendment	8	8
Warnings:			
Information:			
	Total Files Size (in bytes):	102851	

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National Stage of an International Application under 35 U.S.C. 371
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Electronic Patent Application Fee Transmittal

Application Number:	14250517
Filing Date:	11-Apr-2014
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Filer:	Jeffri Kaminski/l hayes
Attorney Docket Number:	122358-363771

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Independent Claims in Excess of 3	2201	2	210	420
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
		Total in USD ($)		**420**

Electronic Acknowledgement Receipt

EFS ID:	19416834
Application Number:	14250517
International Application Number:	
Confirmation Number:	1071
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Customer Number:	26694
Filer:	Jeffri Kaminski/l hayes
Filer Authorized By:	Jeffri Kaminski
Attorney Docket Number:	122358-363771
Receipt Date:	26-JUN-2014
Filing Date:	11-APR-2014
Time Stamp:	10:11:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$420
RAM confirmation Number	12622
Deposit Account	220261
Authorized User	

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Fee Worksheet (SB06)	fee-info.pdf	30422 df668aa4609a1e3696fd8afa9c8f8c70c097ec3f	no	2

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New International Application Filed with the USPTO as a Receiving Office
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PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/250,517	Filing Date 04/11/2014	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **06/26/2014**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 15	Minus	** 20	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 5	Minus	***3	= 2	X $210 =	420
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	**420**

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

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Patentanmeldung Nr.	**Patent application No.**	**Demande de brevet n°**
	06111804.8 / EP06111804	

The organization code and number of your priority application, to be used for filing abroad under the Paris Convention, is EP06111804.

Der Präsident des Europäischen Patentamts;
Im Auftrag

For the President of the European Patent Office

Le President de l'Office européen des brevets
p.o.



V. Joseph

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Bezeichnung der Erfindung / Title of the invention / Titre de l'invention:
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Method and system for monitoring a mobile station presence in a special area

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Method and system for monitoring a mobile station presence in a special area.

This invention relates to a method for monitoring a mobile station presence in a special area. This invention relates also to a mobile system, a server, a radio transmitting device, and a mobile station suitable for carrying out such a method.

BACKGROUND ART

Development of short range wireless communication solutions based on the use of Bluetooth, DECT and WIFI within a small area such as homes is strong competition for mobile operators owning wide mobile networks. A mobile telephone network (called also mobile network) includes a large number of base stations and all the data processing means required to provide the telecommunication service to each mobile station serviced by said mobile network.

These short range wireless communication solutions can provide direct connection to fixed networks whose operators offer cheaper rates than those offered by mobile networks. It can therefore be of interest for mobile network operators to offer different rates depending on the instantaneous location of a mobile station connected to its mobile network, in particular in areas, called special areas, where it could face strong competition from some short range wireless communication solutions.

The published patent application nºUS20020094801 describes a technical solution: a fixed station sends an encoded first signal and the coverage of said first signal defines a special area. The fixed station and a mobile station using the special area are linked one another via the signal code. But this document does not disclose anything about the content of said coded signal. In order to realize protection against the abuse of the system, in an embodiment, this document proposes to provide the fixed station with receiving and comparison means for an access code that is to be applied to the fixed station via the mobile station in order to put the fixed station into operation.

The international application WO 00/27152 offers another solution for locating a mobile station based on the use of a guide unit that broadcasts a short range radio signal which defines a home area. This document discloses that the short range radio signal contains the identity code of said mobile station that has to identify its own identity code in order to notice to a mobile switching centre that it is located in its home area. This mobile station transmits then a home message to the mobile network, this home message being possibly used notably for defining the price/service connected to telephone calls. In this last technical solution, the guide unit has to know the identity of the mobile station and this last solution is thought to be used for a home special area.

However, this last technical solution does not allow the mobile network, to add for a mobile station one or more special areas wherein the presence of a mobile station is monitored without having to at least modify one or more guide units broadcasting in such areas. It lacks therefore of flexibility.

DISCLOSURE OF THE INVENTION

An object of the invention is therefore to provide a method for monitoring the presence of a mobile station in at least one special area, said method providing the flexibility to the mobile telephone network of associating new special areas for this mobile station in a secure way without modifying any radio transmitting device.

This object is achieved in accordance with claim 1 by providing a method for monitoring the presence of a mobile station in at least one special area associated to the mobile station, the method comprising the following steps:

a. at least one radio communication defining device transmits repeatedly in at least a channel one radio distinctive defining signal that defines the special area by its coverage,

b. the mobile station observes the channel and process any signal received in order to determine whether or not it is receiving any defining signal,

c. the mobile station processes any defining signal received in order to determine whether or not the defining signal received is a distinctive defining

signal that defines the special area,

d. the mobile station sends an updating signal to a mobile telephone network about its presence in the special area,

e. the mobile telephone network routes the updating signal to special operating means that adapt the value of at least one operating parameter depending on the presence of the mobile station in the special area,

the said method is characterized in that the special area is associated to the mobile station by transmitting to the mobile station a checking data, this checking data being used by the mobile station for determining whether or not the defining signal received is a distinctive defining signal that defines, alone or with other distinctive defining signals, the special area associated to the mobile station and the same checking data being sent to any mobile station whose presence in this special area is monitored.

Advantageously from the operator's point of view, the invention brings the flexibility needed to activate a special way of operating a mobile station in a special area by transmitting a checking data that will be stored in a mobile station database without having to modify, by way of introducing any new data (notably the identity code of said mobile station), at least one radio communication defining device like in the aforementioned international patent application WO 00/27152. Therefore, a radio communication defining device is not required to store all the mobile stations identity codes using the special area defined by at least the coverage of its defining signal(s).

According to the present invention, a special area associated to a mobile station can be defined by one or more defining signals. Therefore the checking data may preferably contain information included in every defining signals defining completely a special area (each one defines it partially) and the mobile station try to find any of this information in any defining signal received with comparison means. The mobile station may receive defining signals that do not define any special area for it. In the case where the special area is defined by two or more defining signals, this special area may be the intersection of all or part of them or the global coverage of the defining signals.

In addition, a method according to the invention is specially suitable to be used in environments like for example airports, company's premises or business centres where the number of different mobile stations to be serviced by the mobile telephone network would be high. With the solution of the aforementioned international patent application WO 00/27152, it would be necessary to store and transmit in and from a single radio communication defining device all the mobile station identity codes of the potential mobile stations using a special area defined in such environment, operation which would difficult or even impossible considering that the radio spectrum is a limited resource. Therefore, the application WO 00/27152 has a narrower geographical scope of usability. It is also not required, thanks to the invention, to send any activation code to activate a radio communication defining device and it is not required to store all the mobile stations activation codes in the radio communication defining device, as in one embodiment of the published patent application nºUS20020094801. Therefore, it is easier with this present invention to realize protection against abuse of the system.

The special operating means may be at least partly included in the data processing means of the mobile telephone network. All of them or part of them may be own or operate by an external provider of the mobile telephone network.

In a particular embodiment, the special area is deactivated for the mobile station by the mobile telephone network sending a deactivation signal to the mobile station to stop the mobile station from recognizing a defining signal that defines that special area as a distinctive one.

In a particular embodiment, the special operating means acknowledge the reception of the updating signal and transmit an acknowledgement signal to the mobile station. In this embodiment, the mobile station knows advantageously if the mobile telephone network received the updating signal or not.

In a particular embodiment, at least one radio communication defining device is a wireless device whose radio distinctive defining signal that defines the special area

is a distinctive wireless signal transmitted by the wireless device in a frequency range outside the frequency range allocated for the mobile telephone network. Preferably, the said distinctive wireless signal contains wireless device identification data and reliable information confirming that the wireless device is effectively located into a predetermined environment. The operator of the mobile telephone network advantageously avoids fraud linked to a possible shifting of the wireless device. The checking data associated to this wireless device includes this wireless device identification data.

In another particular embodiment, at least one radio communication defining device is a base station whose radio distinctive defining signal that defines the special area is a distinctive signal comprising a special mobile telephone network identification code, the checking data associated to this base station includes this special mobile telephone network identification code.

In another particular embodiment, at least one radio communication defining device is a base station whose radio distinctive defining signal that defines the special area is a distinctive base station identity signal comprising an identification code of the base station, the checking data associated to this base station includes this base station identification code. The mobile telephone network operator controls and knows the location of all the base stations broadcasting identification codes contained into the mobile station database and therefore advantageously controls the location of the special area.

In an embodiment of this invention, the special operating means store a parameters database linking the special area to the mobile station and to a set of at least the operating parameter; and the special operating means adapt the value of at least an operational parameter of this set when they receive an updating signal signalling that the mobile station exits or enters the special area. Thanks to this embodiment of the invention, the processing of these operating parameters is centralized in the special operating means and it is not done in each base station. In case the mobile station will be switch off, the mobile network operator will decide whether or not the values of the operating parameters associated to the

presence of the mobile station into special operating areas remain unchanged or are disabled into the database containing the set of operating parameters as consequence of the switching off process.

In a particular embodiment, the operating parameter is a tariff or a service flag that enables or disables a special tariff or a service for the mobile station. Advantageously, the operator's services offer can therefore being dependent on the location of the mobile station.

In a particular embodiment, the updating signal includes a request to access to a service or to a multimedia content and the mobile telephone network routes this request to a part of the special operating means that allow or forbid the provision of this service or multimedia content depending on whether or not the mobile station is into the special area. This part of the special operating means may be operated by the mobile telephone network operator or by a different provider.

In a particular embodiment, the transmission of the checking data to the mobile station is done via the mobile telephone network or via a signal of at least one radio device or via a person introducing the checking data in the mobile station.

According to the present invention, there is further provided a mobile system for monitoring the presence of a mobile station in a special area defined for this mobile station, said system comprising :

- checking means for detecting the presence of the mobile station in the special area associated to this mobile station, said checking means including :
    - At least one radio communication defining device transmitting repeatedly in at least a channel a radio distinctive defining signal that defines the special area,
    - in the mobile station, observing means for observing the channel and processing means for processing any signal received in the channel in order to determine whether or not the signal received is a defining signal and, if the signal received is a defining signal, whether or not

the signal received is a distinctive defining signal that defines the special area,

- transmission means for sending an updating signal regarding the presence of the mobile station in the special area from the processing means to special operating means included at least partly in data processing means of the mobile telephone network,

- the special operating means for adapting the value of at least one operating parameter depending on the presence of the mobile station in the special area,

characterized in that the said mobile system comprises storing means for storing a checking data in the mobile station, the processing means include means for using this checking data for determining whether or not the defining signal received is a distinctive defining signal that defines, alone or with other distinctive defining signals, the special area and the same checking data is sent to any mobile station whose presence in this special area is monitored.

In a particular embodiment of the invention, the mobile system comprises special area location monitoring means for monitoring the correct location of at least a part of the special area. It is then harder to fraud by moving the radio communication defining device. In a particular embodiment of the invention, the mobile system carries out a method according to the present invention.

This invention also concerns a server. According to the invention, this server is characterized in that it contains at least some of the special operating means included in the mobile system according to the present invention. This server may contain the whole or part of the special operating means. In this last case, the special operating means may be spread in several servers or computers.

According to the present invention, there is further provided a radio communication defining device, characterized in that it carries out a method according to the present invention. In a particular embodiment, the said radio communication defining device of the invention is a wireless device and it contains means for transmitting the distinctive wireless signal that defines the special area and means

for obtaining reliable information indicating whether or not the said wireless device is located into a predetermined environment.

This invention also concerns a mobile station, characterized in that this mobile station is suitable to carry out a method according to the present invention. This mobile station may be a mobile telephone or a Personal Digital Assistant for example.

BRIEF DESCRIPTION OF THE DRAWINGS

In the following detailed description of some possible embodiments, other features and advantages of the invention will appear, each description being made with reference to the following drawings:

Figure 1 is a schematic diagram illustrating an embodiment of a mobile system according to the invention;

Figure 2 is a schematic diagram illustrating another embodiment of a mobile system according to the invention;

Figure 3 is a schematic diagram illustrating another embodiment of a mobile system according to the invention;

Figure 4 is a flow chart illustrating partly an embodiment of a method according to the invention;

Figure 5 is a flow chart illustrating another part of an embodiment of a method according to the invention;

Figure 6 is a schematic diagram of a part of an operating parameters database in an embodiment of the invention;

Figure 7 is a schematic diagram of a part of another operating parameters database in an embodiment of the invention.

DETAILED DESCRIPTION

A mobile telephone network includes a large number of base stations and all the data processing means required to provide the telecommunication service to each

mobile station serviced by the mobile telephone network. The mobile telephone network may be cellular or not.

In this description and in the claims, it is supposed, in the case that the mobile telephone network is cellular, that each base station of the cellular mobile telephone network is associated to a unique cell. Therefore, some base stations of the cellular mobile network can be located in the same location and share technical means. For example, a tower may incorporate three sets of antennas, each set being part of a different base station of the same mobile network.

Figure 1, figure 2 and figure 3 are three schematic figures describing three particular embodiments of mobile systems according to the invention.

Figure 1 is a schematic diagram illustrating an embodiment of the invention wherein :

- any base station 107 or 105 of a mobile telephone network of an operator is a radio communication defining device transmitting a radio defining signal in a channel used by the mobile telephone network,
- the distinctive radio defining signal that defines the special area is a distinctive signal transmitted by some selected base stations 105, said distinctive signal comprising a special mobile telephone network identification code. The sum of the coverage of these selected base stations 105 defines a special area (the shaded area of figure 1).
- the checking data includes this special mobile telephone network identification code.

More precisely, Figure 1 shows a geographical area 102 covered by the mobile telephone network. The radio coverage of the mobile telephone network in this geographical area 102 is the addition of the radio coverage 104 and 106 of several base stations 105 and 107. The mobile telephone network includes data-processing means that comprise a server according to the invention including special operating means according to the invention.

Each base station is transmitting network data, including a mobile telephone network identification code, which allows a mobile station 100 in the geographical area 102 to select the appropriate mobile telephone network.

The operator of the mobile telephone network defines one special mobile telephone network identification code, called IC2, (in another embodiment, the operator may create more than one special mobile telephone network identification code) different from a normal mobile telephone network identification code, called IC1. Then the operator configures its mobile telephone network in such a way that some base stations 107 (in general the majority of them) transmit a radio defining signal comprising the normal mobile telephone network identification code and the selected base stations 105 (in general a minority of them) transmit a distinctive defining signal comprising a special mobile telephone network identification code.

The checking data (i.e. IC2) is stored into an internal mobile station database included in mobile station 100 storing means, this mobile station 100 being associated to this special area. The same checking data is sent to any mobile station whose presence in this special area is monitored.

The mobile station 100 contains observing means and processing means for determining that the distinctive defining signal transmitted by any base station 105 is received. These processing means include means for using the checking data that include, in this embodiment, comparing means. Thanks to these comparing means, the mobile telephone network identification codes received by the mobile station are compared to IC2 stored into the internal mobile station database: If the mobile station is in a position like the position (a) in figure 1, i.e. inside the special area, the mobile telephone network identification code received is equal to IC2 and therefore the mobile station 100 determines that it is into the special area. Otherwise, if the mobile station 100 is in position like the position (b) in figure 1, i.e. outside the special area, the mobile station 100 receives a defining signal containing IC1 different from IC2 and determines that it is not receiving any distinctive defining signal and therefore that it is not into the special area.

For example, if the mobile station 100 is a GSM mobile station operating into a GSM mobile telephone network, the mobile station 100 has the capability to store the received mobile telephone networks identification codes into a mobile station 100 memory. In that case, the mobile station 100 may access to such internal memory to get data to determine, together with the checking data (i.e. IC2), whether or not it is receiving any distinctive defining signal.

With the exception of the processes concerning the invention, a special mobile telephone network identification code (IC2) is equivalent, from the perspective of both the mobile station and the mobile telephone network, to a normal mobile telephone network identification code (IC1). In this context, processes such as network selection, selection / reselection of base stations and handover will not be influenced because some base stations transmit IC1 and some other transmit IC2, such lack of influence meaning that all the mobile station and the mobile telephone network processes (except the processes concerning the invention) will be handle as if IC1 and IC2 would be the same code.

For example, a mobile telephone network operator can use this embodiment of the invention to offer one set of normal billing rates in an urban environment of a country, and another set of special billing rates for a rural environment. Another example of the application of this embodiment of the invention is for a mobile telephone network operator to offer normal billing rates for the whole country except in industrial areas or business districts.

Figure 2 is a schematic diagram illustrating an example of another embodiment of a mobile system according to the invention wherein the radio communication defining device is a wireless device (212 or 212b), e.g. a WIFI, Bluetooth or DECT device, the radio distinctive defining signal that defines the special area is a distinctive wireless signal 214 or 214b (e.g. a WIFI, Bluetooth or DECT signal) transmitted by the wireless device (212 or 212b) in a frequency range outside the frequency range allocated for the mobile telephone network. A mobile station 200 whose presence in the special area is monitored includes observing means and processing means for determining whether or not any defining signal is received in

the frequency range used by the wireless device.

Each distinctive wireless signal contains wireless device identification data and reliable information confirming that its transmitting wireless device (212 or 212b in figure 2) is effectively located into a predetermined environment. The checking data comprises a set of at least one wireless device identification data.

The predetermined environment may be one or more specific geographical locations (for example several fixed points into a restaurant) or a physical environment that can be mobile (for example a car, a plane or a boat). The predetermined environment is defined by the operator of the mobile telephone network.

The distinctive wireless signals are preferably coded and the mobile station processing means include decoding means to decode the wireless signals received.

The mobile system comprises special area location monitoring means for monitoring the correct location of any wireless device that may transmit a distinctive wireless signal into this predetermined environment and therefore for monitoring at least a part of the special area.

In a particular embodiment of the special area location monitoring means, the reliable information comprised into the wireless signal confirms that the wireless device is effectively located into a predetermined geographical environment defined by the operator of the mobile telephone network when:

- the wireless device able to receive a RBU signal from at least one radio broadcasting unit (RBU)
- RBU identification data is comprised into the RBU signal,
- the wireless device receives, through the RBU signal from the RBU, the RBU identification data that are included into a RBU identification database of the wireless device..

The storage of the RBU identification data into the wireless device RBU identification data database may be done at the wireless device configuration stage. In the particular example of figure 2 and the wireless device 212, the RBU is a base station 205 of the mobile telephone network, the RBU identification data is a base station identification code. The wireless device 212 is authenticated into the mobile telephone network comprising the base station 205 and may receive the base station signal 220 when it is located within the range of coverage 204 of the base station 205.

In a second example of embodiment of the special area location monitoring means, the reliable information comprised into the wireless signal confirms that the wireless device is effectively located into a predetermined geographical environment defined by the operator of the mobile telephone network when it is physically connected to any fixed network connection points defined by the operator of the mobile telephone network for the special area and it is also authenticated into the said fixed network through any of the mentioned fixed network connection points. In this embodiment, the wireless device also comprises means for communicating with the fixed network. In a particular example of this embodiment, some parameters are stored into the wireless device during its configuration stage and such parameters are used by the wireless device to perform the said authentication process into the fixed network.

These connection points may be PSTN ('Public Switching Telephony Network') connectors for ADSL network services or electrical sockets for PLC ('Power Line Communication') home network services for example. In the particular example of figure 2 and the wireless device 212b, the wireless device 212b has to be connected to a connection point 230 of a fixed network and authenticated in this fixed network so that the reliable information comprised into the wireless signal 214b confirms that the wireless device is effectively located into a predetermined geographical environment.

In a third example of an embodiment of the special area location monitoring means (not illustrated in figure 2), the reliable information comprised into the

wireless signal confirms that the wireless device is effectively located into a predetermined physical environment defined by the operator of the mobile telephone network when:

- the wireless device is physically connected to a system registered and authorised by the mobile telephone network operator for the purposes of the invention and
- the wireless device is authenticated into the mentioned system.

In a particular example of this embodiment some parameters are stored into the wireless device during its configuration stage and such parameters are used by the wireless device to perform the referred authentication process into the system. This system may be, in an example, embedded in a mobile device such as a car or a boat.

More precisely, Figure 2 shows a geographical area 202 covered by a mobile telephone network of an operator, the radio coverage of the mobile telephone network in this geographical area 202 being the addition of the radio coverage of several base stations 205 and 207. The mobile telephone network includes a server according to the invention comprising special operating means. In this embodiment, a wireless device 212 is located in a geographical environment agreed between the operator and the user, such as for example near to the user's house or near his/her work place. The wireless device 212b is located either into a geographical environment, such as for example the user's home, or into a physical environment, which may be mobile, such as for example the user's car, such environments being agreed between the operator and the user.

The checking data associated to a special area is stored into an internal mobile station database included in a memory (storing means) of a mobile station 200 associated to this special area.

Processing means comprised in the mobile station 200 compare any wireless device identification data received with the checking data stored in its internal mobile station database and determines that a wireless signal received is a

distinctive wireless signal when:

- such wireless signal is coded in a format predefined for a distinctive wireless signal and
- the wireless device identification data comprised into the wireless signal is equal to at least one of the wireless device identification data stored into the internal mobile station database and
- the reliable information comprised into the wireless signal confirms that the wireless device is effectively located into a predetermined environment.

Otherwise the mobile station 200 determines that the wireless signal received is not a distinctive wireless signal.

In the embodiment illustrated by the figure 2, the sum of the coverage (203,203b) of the wireless devices 212 and 212b transmitting distinctive wireless signals 214 and 214b defines a special area for the mobile station 200 according to the invention.

Transmission means for sending an updating signal regarding the presence of the mobile station 200 in the special area (203, 203b) from the processing means to the special operating means are partly comprised in the mobile station 200 and in the mobile telephone network. The updating signal may comprise the result of the last determination performed by the mobile station about its presence into the special area. In another embodiment, the reliable information related to whether or not the wireless device 212 or 212b is or not effectively located into its predetermined environment is also included into the updating signal.

In this embodiment, an operator of a mobile telephone network covering a geographical area 202 may offer cheaper rates, called special billing rates, to the user of a mobile station 200 if he uses his/her mobile station 200 within the range of coverage 203 of the wireless device 212 (position (a) of the mobile station 200) or within the range of coverage 203b of the wireless device 212b (position (b) of the mobile station 200).

As an example, a mobile telephone network operator can use this embodiment of the invention to offer one set of special billing rates in premises associated to the user of the mobile station 200 as may be houses, cars or boats, and another set of normal billing rates for the rest of the environments where the user may use the mobile station 200. Another example of the application of this embodiment of the invention is for a mobile telephone network operator to offer normal billing rates for the whole country except in industrial areas, airports or restaurants.

Figure 3 is a schematic diagram illustrating an example of another embodiment of a mobile system according to the invention wherein the radio communication defining device is a base station, the radio defining signal that defines the special area is a distinctive base station identity signal comprising an identification code that identifies this base station, the checking data includes a set of at least one base station identification code.

Figure 3 shows a geographical area 302 covered by a mobile telephone network of an operator, the radio coverage of the mobile telephone network in this geographical area 302 being the addition of the radio coverage 304 and 306 of several base stations 305 and 307. The mobile telephone network includes a server according to the invention comprising special operating means.

Any mobile station 300 whose presence in the special area is monitored includes observing means and processing means for observing and processing the base station identity signal of the mobile telephone network base stations 305 and 307.

The checking data is stored into an internal mobile station database included in a memory (storing means) of a mobile station 300 associated to this special area.

Processing means of the mobile station 300 process the base stations identity signals received and compare their base station identification codes to the checking data and determine that at least one distinctive base station identification code signal is received (i.e. the mobile station 300 is in position (a)) when any of the base station identification codes received is equal to at least one of the base

station identification codes stored into the internal mobile station database and otherwise determine that it is not receiving any distinctive base station identification code signal (i.e. the mobile station 300 is in position (b)).

For example, when a GSM mobile station is operating into a GSM mobile telephone network, the GSM mobile station 300 receives the identification code of the active base station and also the identification codes of some available neighbours base stations. The GSM mobile station 300 may consequently process the base station identification codes received to determine, together with the checking data, whether or not it is receiving any distinctive base station identification code signal.

The sum of the coverages 304 of the base stations 305 transmitting distinctive base station identification code signals defines a special area for the mobile station 300 according to the invention.

In this embodiment, an operator of a mobile telephone network covering a geographical area 302 may offer special services to the user of a mobile station 300 if he uses his/her mobile station 300 within the range of coverage of the base stations 305.

As an example a mobile telephone network operator can use this embodiment of the invention to offer one set of normal billing rates in an urban environment of a country, and another set of special billing rates for a rural environment. Another example of the application of this embodiment of the invention is for a mobile telephone network operator to offer normal billing rates for the whole country except in industrial areas or small towns.

Any combination of the embodiments of a mobile system according to the invention described herein is another embodiment here below of a mobile system according to the invention. That combination can be the result from 'N' different distinctive defining signals, each one comprising a different special mobile telephone network identification code or a different wireless device identification

data or a different base station identification code ,.

For example, the mobile telephone network operator can then propose 'N' different sets of rates for 'N' different kinds of special areas for a given mobile station. In an example, an operator installs in the user's house a wireless device whose position is controlled by being or not in the range of coverage of a particular base station of the mobile network, another wireless device whose position is controlled by its connection to a fix network in the user's holiday cottage and a third wireless device whose position is controlled by its connection to a system embedded in the user's car. The operator creates a special mobile telephone network identification code transmitted by the all the base stations of the user's city. Then the operator stores in the storing means of the user's mobile station the three wireless devices identification data, the user's city special mobile telephone network identification code and several sets of base stations identification codes, each set being the set of identification of base stations covering public places like airports and train stations. Then, the operator can adapt the tariffs charged and the services provided to the user depending notably whether his/her mobile station is in its city or outside, in its house, holiday cottage or car and / or in public places.

An embodiment of a method for monitoring the presence of a mobile station in at least one special area according to the invention may include at least three parts:

- a first part, illustrated in figure 4, that includes the steps needed to successfully transmit, store, erase and maintain checking data in a mobile station according to the invention,
- a second part, illustrated in figure 5, that includes the steps needed for the mobile station to monitor its location in the special areas using the checking data that were transmitted to it and
- a third part, illustrated in figure 6 and 7, that includes the adaptation of the operational parameters depending on the presence of the mobile station in any special area where this mobile station is monitoring its presence.

This embodiment of such method according to the invention may be carried out for example using any of the embodiments of mobile systems according to the

invention described before.

Figure 4 is a flowchart of the first part 400 of a method according to one embodiment of the invention for successfully transmit, store, erase and maintain checking data in a mobile station according to the invention.

A mobile telephone network comprises in this embodiment data processing means that includes special operating means; the special operating means are included in a server and therefore are advantageously centralised and not distributed between each base station of the mobile telephone network.

An operator of a mobile telephone network (i.e. the company that operates this mobile telephone network) wishes to propose special billing rates and/or special services to users of its mobile telephone network, each user carrying a mobile station, when said users are within special areas of the invention.

The part 400 of this embodiment starts in step 402 when the operator wishes to monitor the presence of a mobile station in a special area.

In step 404, the operator defines a new special area if the operator wishes to create a new one. The special areas may be agreed between the operator and the user or simply defined by the operator.

The definition of the special area can be done by the coverage of one or several radio defining signals or by the intersection of the coverage of two or more radio defining signals.

In step 406, the operator updates a parameters database included in the special operating means. The parameters database associates each special area defined with the mobile stations whose presence in such special area is monitored. For the purposes of such association, each mobile station is identified into the parameters database by means of a mobile station identifier. In the parameters database, each mobile station identifier is associated with special tariffs and/or services

which may be or not available for the mobile station depending on the presence of such mobile station into a given special area (and also depending on whether such tariffs and/or services are enabled or disabled into the parameters database for such mobile station).

The operating parameter(s) that may be adapted depending on the presence of the mobile station in one or more special areas at the same time may be notably related to activation or deactivation flags of tariffs and/or services provided to the mobile station by the mobile telephone network. Therefore, tariffs may be more or less expensive for the said mobile station in predetermined special areas and / or the mobile station may be able or unable to use predetermined services offered by the operator of the mobile telephone network in predetermined special areas.

In step 408, the special operating means send a checking data to the mobile station.

The checking data transmission can notably be done:

1) by sending the checking data stored in a server of the mobile telephone network to the mobile station through the mobile telephone network transmission channels. In a particular example, the mobile telephone network is a GSM network and the checking data from the server will be sent to the mobile station via encrypted short messages using an 'Over the Air' platform. The mobile station is able to decode the short messages and to store the checking data into an internal mobile station database,

2) through the use of a mobile station special software able to store into an internal mobile station database checking data obtained by the mobile station from at least one radio communication defining device. In a particular example, it may be necessary that an operator's representative introduces a password to allow the mobile station special software to operate. The mobile station special software may ask the operator's representative to validate the storage of the checking data through the mobile telephone keyboard,

3) or via a person (e.g. an operator's representative) who enters the checking data into the mobile station using the mobile station keyboard.

Regarding the second option, two examples are provided. In a first example, the mobile station is operating in a GSM network, the mobile station obtains from the active cell its cell identification code and from other neighbouring cells, if available, their cell identification codes. When the special software is run for example in the user's home, it is able to obtain such cells identification codes and store them in the internal mobile station database of checking data, associating them with the user's home special area.

In a second example, the mobile station can obtain, by using a WIFI device embedded into the mobile station, neighbouring WIFI devices identification data. When the special software is run for example in the user's home, it is able to obtain such WIFI device identification data and store them in the internal mobile station database of checking data, associating them with the user's home special area.

Once the checking data has been successfully stored into the internal mobile station database, a confirmation of new checking data is sent to the parameters database. In addition, notably regarding to the second and third options to transmit checking data to the mobile station, the stored checking data may be sent by the mobile station to the parameters database through the mobile telephone network for the mobile telephone network to know this checking data..

In step 410, the special operating means wait for the confirmation of new checking data from the mobile station. Once the information is received, it is stored into the parameters database and the special operating means transmit an acknowledgment to the mobile station. In case the mobile station does not receive the acknowledgment after a certain time, the mobile station sends the confirmation of new checking data again until it receives the acknowledgment or until it resents the information up to a maximum number of times.

It is advantageous to store the checking data into the mobile station, mainly in comparison to the prior art where it was necessary to store mobile station identity

codes and/or activation signals into a fix unit.

If the confirmation of new checking data is not received (possibility 412) by the special operating means, the special operating means transmit again the checking data to the mobile station (step 408).

When the confirmation of new checking data from the mobile station is received (possibility 414) by the special operating means, the special operating means know in step 416 that the mobile station updated its internal mobile station database and the internal mobile station database is in accordance with the operator wishes.

After the first special area checking data or set of checking data is stored in the internal mobile station database, the operator can add more in the same way.

In another hand, in this embodiment of a method according to the invention, the operator can deactivate a special area following the steps 430 to 440.

In step 430, the operator chooses to deactivate a special area for a mobile station, with or without the agreement of the mobile station user. In step 432, the operator deactivates into the parameters database all the special tariffs and/or services associated to the presence of the mobile station into the special area. In step 434, the special operating means transmit a deactivation signal to the mobile station (using the mobile telephone network) asking the mobile station to erase, into its internal mobile station database, the checking data associated with the special area that the operator wishes to deactivate.

In another embodiment, the deactivation signal just blocks into the mobile station the use of the special area checking data but does not erase it. The result is the same: the deactivation signal avoids the mobile station recognising the special area(s) associated with this deactivation signal.

The transmission of the deactivation signal may be done notably as in the first and

third options for transmitting the checking data (as seen in description of step 408).

Once the deactivation signal has been successfully received and processed by the mobile station, a confirmation of deactivation is sent to the parameters database. In step 436, the special operating means wait for the confirmation of deactivation from the mobile station. Once the confirmation of deactivation is received by the special operating means (possibility 440), this fact is stored into the parameters database and the special operating means transmit an acknowledgment to the mobile station. In case the mobile station does not receive the acknowledgment after a certain time, the mobile station sends the confirmation of deactivation again until it receives the acknowledgment or, in another embodiment, until it resents the confirmation of deactivation up to a maximum number of times.

If the confirmation of deactivation is not received (possibility 438) by the special operating means, the special operating means transmit again a deactivation signal to the mobile station (step 434).

When the confirmation from the mobile station regarding the successful reception and process of the deactivation signal is received (possibility 440) by the operating means, the operating means know in step 416 that the mobile station updated its internal checking data database and the internal mobile station database is in accordance with the operator wishes.

In another hand, in this embodiment of a method according to the invention, the operator can modify a special area following the steps 450 to 460 to adapt the internal mobile station database to the operator's wishes. In step 450, the operator chooses to modify a special area for a given mobile station, with or without the agreement of the mobile station user, and defines such modified special area. For example, this can be done by including in the checking data associated to one special area, some additional checking data for the special area being not only the coverage of one distinctive defining signal but the intersection (or the sum) of the coverage of the former one and the coverage of a new one. This can be done too by erasing in a set of checking data associated to one special area, some

checking data in order to, for example, transform a special area defined as the intersection (or the sum) of the coverage of two distinctive defining signals into a special area defined as the coverage of one only distinctive defining signal.

In case the operator wishes to add a new checking data (the steps for erasing one can be easily inferred by analogy), in step 452, the operator updates the parameters database in order to include, if known, the new checking data associated to the mobile station and the modified special area.

In step 454, the special operating means send, by using any of the three options for transmitting checking data described in step 408, the new checking data to the mobile station using the mobile telephone network.

Once the new checking data has been successfully stored into the part of the internal mobile station database that contains the checking data linked to the special area that has to be modified, a confirmation of modification of checking data is sent to the parameters database. In addition, typically regarding to the second and third options to transmit checking data to the mobile station described in step 408, the stored new checking data may be sent by the mobile station to the parameters database through the mobile telephone network. In step 456, the special operating means wait for the confirmation of modification of checking data from the mobile station. Once the confirmation of modification is received, this fact is stored into the parameters database and the special operating means transmit an acknowledgment to the mobile station. In case the mobile station does not receive the acknowledgment after a certain time, the mobile station sends the information again until it receives the acknowledgment or, in another embodiment, until it resents the information up to a maximum number of times.

If the confirmation of modification of checking data is not received (possibility 458) by the special operating means, the special operating means send again the new checking data to the mobile station (step 454).

When the confirmation of modification sent from the mobile station is received by

the special operating means (possibility 460), the special operating means know that in step 416, the mobile station updated its internal checking data database and the internal mobile station database is in accordance with the operator wishes.

The second part of this embodiment of a method according to the invention is illustrated in figure 5 and includes the steps needed for the mobile station to monitor its location in the special areas using the checking data that were transmitted into it.

In step 500, a mobile station is switched on. In an embodiment, the mobile telephone network sets the values of the operating parameters managed in the parameters database to a set of initial values when the mobile station is switched off (as at that time it is not present in any special area) in order to start operating the mobile station when it is just switched on. In step 510, the mobile station observes, through the appropriate channel(s), any signal received and process it to determine whether or not it is receiving any defining signal from radio communication defining devices (e.g. from the base stations of a mobile telephone network or from wireless devices).

In one embodiment, the defining signal is coded (or part of the data contained in such a defining signal). In this embodiment, the mobile station is able to decode the information as part of the processing of the defining signals received.

A radio defining signal from a radio communication defining device may be transmitted on a continuous or periodical basis. The mobile station observation as to whether or not it is receiving any defining signal can be continuous or periodical. In step 512, the mobile station decide if it receives a defining signal (possibility 516) or not (possibility 514) after observing and processing any signal received.

When one or several defining signals are received, they are processed in step 518 by the mobile station notably in order to compare, in this embodiment, the appropriate part of their content with any checking data stored in the internal

mobile station database.

When a defining signal received is from a wireless device (transmitted in a frequency range outside the frequency range allocated for the mobile telephone network), the mobile station preferably also search in step 518 whether or not the defining signal received contains reliable information confirming (or not) that the wireless device is effectively located into a predetermined environment defined by the operator of the mobile telephone network.

Then, in step 520, depending on the result of the internal process carried out in step 518, the mobile station decides whether (possibility 524) or not (possibility 522) the defining signal received is a distinctive defining signal that defines a special area for this mobile station, therefore validating or not the defining signal received as a distinctive defining signal.

If the special area is defined by the sum of the coverage of several distinctive defining signals, the mobile station has to recognize at least one of the three distinctive defining signals at one time in order to determine that it is into this special area.

In another example, the mobile station knows that it is into a special area defined as the intersection of the coverage of several distinctive defining signals when it is observing and recognizing at one time all these distinctive defining signals.

The mobile station may be prepared to display a text or an icon (e.g. 'home' or 'airport' icon) when the mobile station determines that it is included in a particular special area for this mobile station.

In step 526, the mobile station sends and updating signal to the mobile telephone network about its presence in the special area.

In a particular embodiment, the mobile station sends periodically (for example every 30 seconds) an updating signal about its presence into a special area, such

updating signal comprising the result of the last determination performed by the mobile station about its presence into the special area.

In another particular embodiment the mobile station only sends to the mobile telephone network an updating signal about its presence into a special area when it enters into or exit from such special area.

For a special area defined by the sum of the coverage of several distinctive defining signals:

If the mobile station processing of the defining signals received in a certain moment determines that at least one distinctive defining signal associated to this special area is received:

- If the previous processing of the defining signals received determined that no distinctive defining signal associated to this special area was received at that time then the mobile station interprets that it has recently entered into this special area.
- If the next processing of the defining signals received determines that at least one distinctive defining signal associated to this special area is still being received then the mobile station interprets that it remains located into this special area;

If the mobile station processing of the defining signals received in a certain moment determines that no distinctive defining signal associated to this special area is received:

- If the previous processing of the defining signals received determined that at least one distinctive defining signal associated to this special area was received at that time then the mobile station interprets that it has recently left this special area.
- If the next processing of the defining signals received determines that no distinctive defining signal associated to this special area is still being received then the mobile station interprets that it remains out of this special area.

For a special area defined by the intersection of the coverage of several distinctive defining signals a procedure equivalent to the one above can be easily inferred by analogy.

The updating signal may be sent through a diversity of channels provided by the mobile telephone network. For example, in a GSM mobile network, the updating signals can be sent using the USSD ('Unstructured Supplementary Service Data', GSM standards) channel. The data comprised into the updating signal will typically be coded by the mobile station and decoded by the special operating means of the server.

In this embodiment, the updating signals are sent from the mobile station to the special operating means of the mobile telephone network requesting an acknowledgement from the special operating means.

In step 530, the mobile station search for the acknowledgment from the special operating means.

If the acknowledgement is not received in the mobile station (possibility 532) because the updating signal does not reach the special operating means or the mobile station detects a failure in the transmission of the updating signal or there is a failure in the transmission of the acknowledgment, then the mobile station may send the updating signal again up to a predetermined number of times according to a predefined retransmissions policy.

When the acknowledgment is received (possibility 531) into the mobile station, the mobile station knows in step 534 that the special operating means will make the appropriate adaptations in the operating parameters of the special areas database.

More generally, the special operating means area waiting for any updating signal from any mobile station whose identification code is into the parameters database. When the special operating means receive an updating signal from a mobile

station, they then adapt the operational parameters of the special areas database that depend on the presence of this mobile station in a special area associated with this mobile station and send the acknowledgement.

In one embodiment, the updating signal contains a request to access to services and/or to download contents provided direct or indirectly by the mobile telephone network of the operator. Then, an access or downloading right is granted or denied by the mobile telephone network depending on the presence of the mobile station in a special area.

The acknowledgment signals of the updating signal from the special operating means are preferably coded. In that case, the mobile station processing means are able to decode the acknowledgments of the updating signals.

The operator of the mobile telephone network has therefore a guarantee that the mobile telephone network will know at least a change on the presence of the mobile station in one or more special areas even if the radio communication link between the mobile station and the mobile telephone network is temporarily unavailable.

In a particular embodiment the mobile telephone network may enable or disable to the mobile station to use predetermined services depending on the presence of the mobile station into a special area.

As an example, the mobile station may incorporate special checking software able to generate statistics about the use of the mobile telephone (phone calls, messages, etc.) into special areas. This software may be enabled for operation by the mobile telephone network when the mobile station enters into a predetermined special area and disabled when the mobile station exits such special area.

As another example, the mobile telephone network may broadcast certain messages associated to a special area (e.g. airport information). The mobile station can be enabled by the mobile telephone network to accept and display

those broadcasted messages when it is located within this special area and disabled when it exits the special area.

The third part of this embodiment of a method according to the invention is illustrated in figures 6 and 7 and includes the adaptation of the operational parameters to the presence of the mobile station in any special area where this mobile station is monitoring its presence.

When the mobile telephone network receives an updating signal, the special operating means of the server adjust the value of at least one operating parameter of a parameters database linking the special area and the mobile station. The value of the operating parameter(s) depends on the information contained into the updating signal about the presence of the mobile station into the special area.

In a particular example, operating parameters related to a special tariff and some services are enabled or remains enabled into the referred parameters database when the information contained into the updating signal indicates that the mobile station has recently entered or remains located into the special area. In the same example, the special tariff and the services are disabled or remains disabled into the referred parameters database when the information contained into the updating signal indicates that the mobile station recently left or remains out of the special area.

More precisely, Figure 6 is a schematic illustration of an example of a part of the parameters database 600 of operating parameters included in the special operating means according to an embodiment of the invention. The illustrated part of the special operating means database 600 links two special areas SA1 606 and SA2 608 with 3 mobile stations identification codes MS(i-1), MS(i) and MS(I+1), each of which having an entry 603, 604 and 605.

The column 602 of the database comprises the mobile stations identification codes. A mobile station identification code refers to a code that is associated with the subscription of the mobile station user into the mobile telephone network. As

an example, in a GSM network the referred mobile station identification code may be the MSISDN.

In this example, the set of checking data of mobile station MS(i) for the special area SA1 606, defined in the column 610/606 of the entry 604 contains :

- a checking data 650 comprised into the distinctive defining signal of a first base station BS1 (e.g. the identification code of BS1), such distinctive defining signal defines the special area SA1 606,
- a checking data 652 comprised into the distinctive defining signal of a second base station BS2 (e.g. the identification code of BS1), such distinctive defining signal also defines the special area SA1 606, and
- a checking data 654 comprised into the distinctive defining signal of a wireless device WD1 (e.g. the identification data of WD1), such distinctive defining signal also defines the special area SA1 606,

for the special area SA1. The mobile station determines that it is located into the special area SA1 606 when it receives at least one of the three identifiers 650, 652, 654 comprised into the distinctive defining signals coming from BS1, BS2 and WD1, i.e. when it is located within the range of coverage of any of the three distinctive defining signals (according to one of the embodiments of the invention, in the case of the defining signal of WD1, in order to consider that such defining signal is a distinctive defining signal, it will additionally be necessary that the reliable information comprised into the defining signal confirms that WD1 is effectively located into a predetermined environment).

In this example, the value of column 611/606 for the mobile station MS(i) and for the special area 606 is enabled ('+') or disabled ('-') at a given time depending on whether or not the mobile telephone network receives a confirmation of new checking data (see description of figure 4) from this mobile station confirming that all the checking data corresponding with the special area has been stored into this mobile station (based on the same principle, it would also be possible to add another column in the parameters database to monitor the reception of confirmations of deactivation of checking data and another one to monitor the reception of confirmations of modification of checking data for a given special area

: see description of figure 4).

In this example, the value of column 611/606 for MS(i) is enabled (+) for the special area SA1 606. In another example, the value of column 611/606 for the mobile station MS (i) and for the special area 606 contains a set of values enabled ('+') or disabled ('-'), one for each checking data.

The column 612/606 corresponding to the operating parameter "Mobile Station Control Flag" is enabled ('+') or disabled ('-') at a given time for the mobile station MS (i) and for the special area SA1 606 depending on the information comprised into the updating signals received about the presence of the mobile station into the special area 606. In this example, at a given time, the mobile station MS(i) is supposed to be in SA1 606 as the operating parameter "Mobile Station Control Flag" 612/606 is enabled ('+').

When the "Mobile Station Control Flag" is enabled (+) at a given time for the mobile station MS(i) and for the special area 606, certain tariffs or services related to such special area may be available for the user of the mobile station depending on the value (+) or (-) of the corresponding tariff or service flags for such mobile station and special area into the operating parameters database. In this example, at a given time, in the column 'Tariff identifier' 614/606, the parameter is then set at 'XXX' and in the column 616/606, the 'Tariff Flag' is enabled (+). In the column 618/606, the 'Service identifier' parameter is then set at 'YYY' and in the column 620/606, the 'Service Flag' of said service 'YYY' is enabled ('+'). In the column 622/606, the 'Service identifier' parameter is set at 'ZZZ' and in the column 624/606, the 'Service Flag' of said service 'ZZZ' is disabled ('-') because service ZZZ is disabled at that time for the mobile station MS(i) and the special area SA1 606.

The set of columns 610/608 to 624/608 provides the same kind of information for the special area SA2 608. The set of checking data of mobile station MS(i) (column 610/608) refers to wireless devices WD1 with the checking data 656, WD2 with the checking data 658 and WD3 with the checking data 660 for the

special area SA2 608. In this special area, at that time, the value of column 611/608 for MS(i) is disabled (-), the operating parameter "Mobile Station Control Flag" (column 612/608) is disabled ('-'). Tariff 'PPP' (column 614/608) is enabled ('+' in column 616/608), service 'QQQ' (column 618/608) is enabled ('+' in column 620/608) and service 'RRR' (column 622/608) is enabled ('+' in column 624/608). The tariff PPP and the services QQQ and RRR are associated to mobile station MS(i) when it is in the special area SA2 608.

In another embodiment of the invention, the special operating means are distributed into different servers of the mobile telephone network or of service providers associated with the mobile telephone network and an updating signal may be sent to any of those servers.

In a particular example of this embodiment, there will be a server containing a part of the special operating means that stores a parameters database (e.g. the database illustrated in figure 6) of operating parameters containing the special areas checking data. In this example part of the updating signals from the mobile stations may be sent to this server of the mobile telephone network and processed by the part of the special operating means that this server contains.

In this example there will be at least another server, called switch server, into the mobile telephone network or associated to it, server that is including another part of the special operating means that include another parameters database of operating parameters, called switch parameters database, that does not contain checking data. The part of special operating means included in this other server allows or forbids the provision of some multimedia contents and applications available to mobile stations (and may preferably provide them itself) depending on the presence, in any special area registered in this switch parameters database, of any mobile station associated with this special area in this switch parameters database.

Figure 7 illustrates an example of a part of a switch parameters database 700 where 702, 703, 704, 705, 706, 708, 712/706 and 712/708 have the same

meaning than respectively 602, 603, 604, 605, 606, 608, 612/606 and 612/608 of Figure 6. The contents and applications 'AAA' are available to the mobile station MS(i) when it is into the special area SA1 706. The contents and applications 'BBB' are available to the mobile station MS(i) when it is into the special area SA2 708.

In the example of figure 7, the part of the special operating means included into the switch server receives, embedded into an updating signal from MS(i), a request to download a content or an application 'AAA', and the downloading right is granted because such updating signal from MS(i) also indicates (value '+' in column 712/706) that it is located in the special area 706 at that time.

In the same manner, in the example of figure 7, the part of the special operating means included into the switch server receives, embedded into an updating signal from MS(i), a request to download a content or an application 'BBB', but the downloading right is not granted because such updating signal from MS(i) also indicates (value '–' in column 712/708) that it is not located in the special area 708 at that time.

In some cases the switch server is entirely property of the mobile telephone network operator while in some others there is an agreement in place with a third party.

Although the present invention has been described in detail for purpose of illustration, it is understood that such detail is solely for that purpose, and variations can be made therein by those skilled in the art without departing from the scope of the invention. Thus, while the preferred embodiments of the method and of the mobile system have been described in reference to the environment in which they were developed, they are merely illustrative of the principles of the invention. Other embodiments and configurations may be devised without departing from the scope of the appended claims.

Further, although the embodiments of the invention described with reference to the

drawings comprise computer apparatus and processes performed in computer apparatus, the invention also extends to computer programs, particularly computer programs on or in a carrier, adapted for putting the invention into practice. The program may be in the form of source code, object code, a code intermediate source and object code such as in partially compiled form, or in any other form suitable for use in the implementation of the processes according to the invention. The carrier may be any entity or device capable of carrying the program. For example, the carrier may comprise a storage medium, such as a ROM, for example a CD ROM or a semiconductor ROM, or a magnetic recording medium, for example a floppy disc or hard disk. Further, the carrier may be a transmissible carrier such as an electrical or optical signal which may be conveyed via electrical or optical cable or by radio or other means. When the program is embodied in a signal which may be conveyed directly by a cable or other device or means, the carrier may be constituted by such cable or other device or means. Alternatively, the carrier may be an integrated circuit in which the program is embedded, the integrated circuit being adapted for performing, or for use in the performance of, the relevant processes.

CLAIMS

1. A method for monitoring the presence of a mobile station (100,200,300) in at least one special area (104,203,203b,304) associated to the mobile station, the method comprising the following steps :

(a) at least one radio communication defining device (105, 212, 212b, 305) transmits repeatedly in at least a channel one radio distinctive defining signal (214, 214b) that defines the special area by its coverage,

(b) (512) the mobile station observes the channel and process any signal received in order to determine whether or not it is receiving any defining signal,

(c) the mobile station processes any defining signal received in order to determine whether or not the defining signal received is a distinctive defining signal that defines the special area,

(d) (526) the mobile station sends an updating signal to a mobile telephone network about its presence in the special area,

(e) the mobile telephone network routes the updating signal to special operating means (600,700) that adapt the value of at least one operating parameter (612/606,612/608,712/706,712/708) depending on the presence of the mobile station in the special area,

the said method is characterized in that the special area is associated to the mobile station by transmitting to the mobile station a checking data (408,454), this checking data being used (518) by the mobile station for determining whether (524) or not (522) the defining signal received is a distinctive defining signal that defines, alone or with other distinctive defining signals, the special area associated to the mobile station and the same checking data being sent to any mobile station whose presence in this special area is monitored.

2. A method according to claim 1, characterized in that the special area (104,203,203b,304) is deactivated (440) for the mobile station by the mobile telephone network sending a deactivation signal to the mobile station (100,200,300) to stop the mobile station from recognizing a defining signal that defines that special area as a distinctive one.

3. A method according to claim 1 or 2, characterized in that the special operating means acknowledge (531) the reception of the updating signal and transmit an acknowledgement signal to the mobile station.

4. A method according to claim 1, 2 or 3, characterized in that at least one radio communication defining device is a wireless device (212,212b) whose radio distinctive defining signal that defines the special area is a distinctive wireless signal (214,214b) transmitted by the wireless device in a frequency range outside the frequency range allocated for the mobile telephone network, the said distinctive wireless signal contains wireless device identification data and reliable information confirming that the wireless device is effectively located into a predetermined environment (204,230), the checking data associated to this wireless device (212,212b) includes this wireless device identification data.

5. A method according to any of claims 1 to 4, characterized in that at least one radio communication defining device is a base station (105) whose radio distinctive defining signal that defines the special area (104) is a distinctive signal comprising a special mobile telephone network identification code, the checking data associated to this base station (105) includes this special mobile telephone network identification code.

6. A method according to any of claims 1 to 5, characterized in that at least one radio communication defining device is a base station (305) whose radio distinctive defining signal that defines the special area (304) is a distinctive base station identity signal comprising an identification code of the base station, the checking data associated to this base station includes this base station identification code.

7. A method according to any preceding claim, characterized in that the special operating means store a parameters database (600,700) linking the special area (104,203,203b,304) to the mobile station (100,200,300) and to a set of at least the operating parameter (612/606,612/608,712/706,712/708); and the special operating means adapt the value of at least an operational parameter of this set

when they receive an updating signal signalling that the mobile station exits or enters the special area.

8. A method according to any preceding claim, characterized in that the operating parameter is a tariff (616/606, 616/608) flag or a service flag (620/606,624/606,620/608,624/608) that enables or disables a special tariff ('XXX','PPP') or a service ('YYY','ZZZ','QQQ','RRR') for the mobile station (100,200,300).

9. A method according to any preceding claim, characterized in that the updating signal includes a request to access to a service ('AAA','BBB') or to a multimedia content ('AAA','BBB') and the mobile telephone network routes this request to a part of the special operating means (700) that allow or forbid the provision of this service or multimedia content depending on whether or not the mobile station (100,200,300) is into the special area (104,203,203b,304).

10. A method according to any preceding claim, characterized in that the transmission of the checking data to the mobile station (100,200,300) is done via the mobile telephone network or via a signal of a at least one radio device or via a person introducing the checking data in the mobile station.

11. A mobile system for monitoring the presence of a mobile station (100,200,300) in a special area (104,203,203b,304) defined for this mobile station, said system comprising:

- checking means for detecting the presence of the mobile station in the special area associated to this mobile station, said checking means including :
  - At least one radio communication defining device (105, 212, 212b, 305) transmitting repeatedly in at least a channel a radio distinctive defining signal (214, 214b) that defines the special area,
  - in the mobile station, observing means for observing the channel and processing means for processing any signal received in the channel in order to determine whether or not the signal received is a defining signal and, if the signal received is a defining signal, whether or not the signal

received is a distinctive defining signal that defines the special area,

- transmission means for sending an updating signal regarding the presence of the mobile station in the special area from the processing means to special operating means included at least partly in data processing means of the mobile telephone network,

- the special operating means for adapting the value of at least one operating parameter (612/606,612/608,712/706,712/708) depending on the presence of the mobile station in the special area,

characterized in that the said mobile system comprises storing means for storing a checking data in the mobile station, the processing means include means for using this checking data for determining whether or not the defining signal received is a distinctive defining signal that defines, alone or with other distinctive defining signals, the special area and the same checking data is sent to any mobile station whose presence in this special area is monitored.

12. A mobile system according to claim 11, characterized in that the mobile system comprises special area location monitoring means (205,212) for monitoring the correct location of at least a part of the special area (212).

13. A mobile system according to claim 11 or 12, characterized in that the mobile system carries out a method according to any one of claims 1 to 10.

14. A server, characterized in that it contains at least some of the special operating means included in the mobile system according to any one of claims 11 to 13.

15. A radio communication defining device (105,212,212b,305), characterized in that it carries out a method according to any one of the claims 1 to 10.

16. A radio communication defining device according to claim 15, characterized in that the said radio communication defining device is a wireless device (212,212b) and it contains means for transmitting a distinctive wireless signal (214,214b) that defines the special area (203,203b) and means for obtaining reliable information

indicating whether or not the said wireless device is located into a predetermined environment (204,230).

17. A mobile station, characterized in that this mobile station is suitable to carry out a method according to any one of the claims 1 to 10.

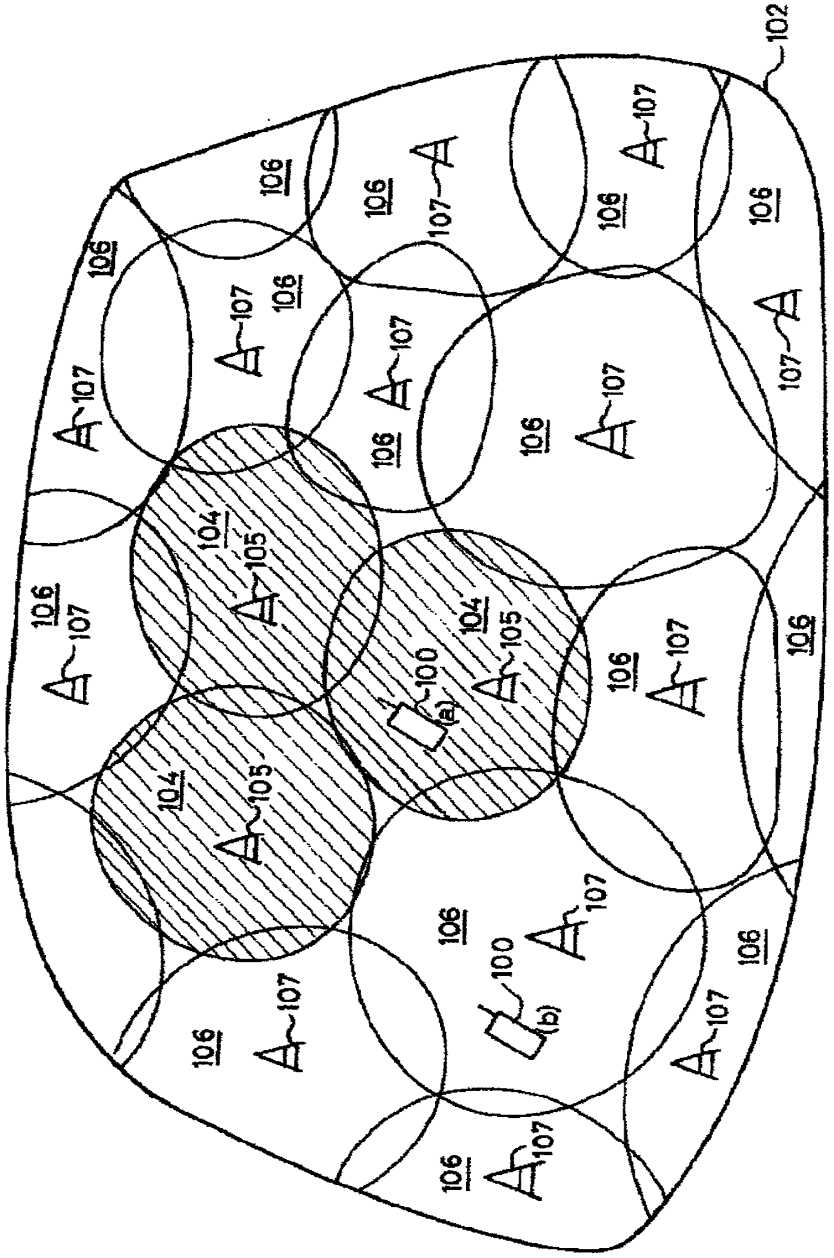
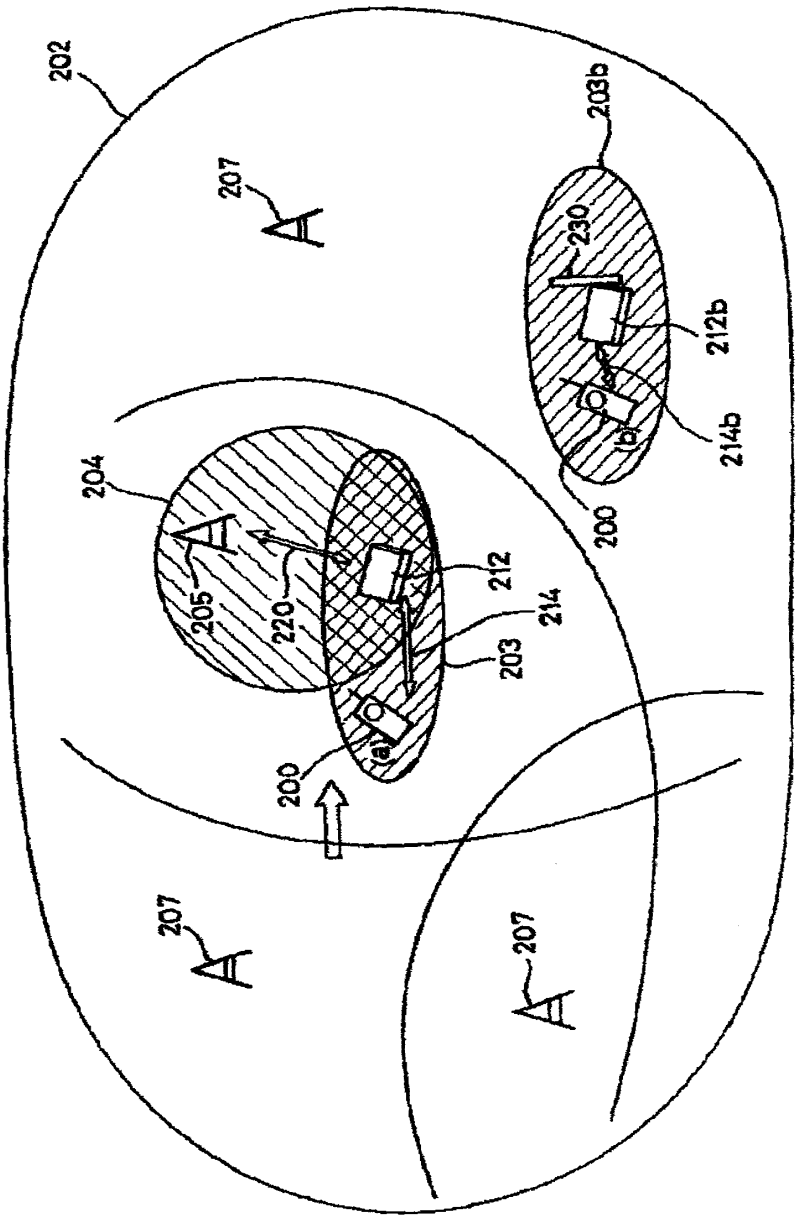


FIG_1

FIG_2



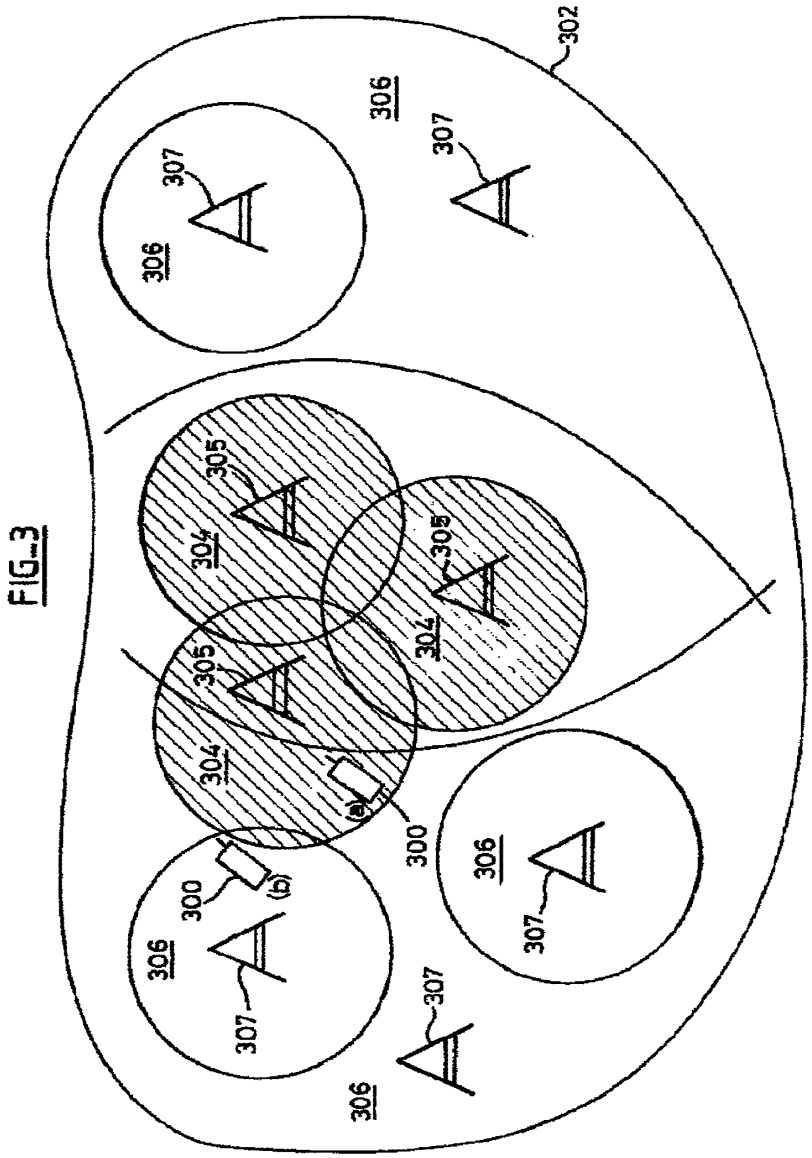


FIG.3

FIG_4

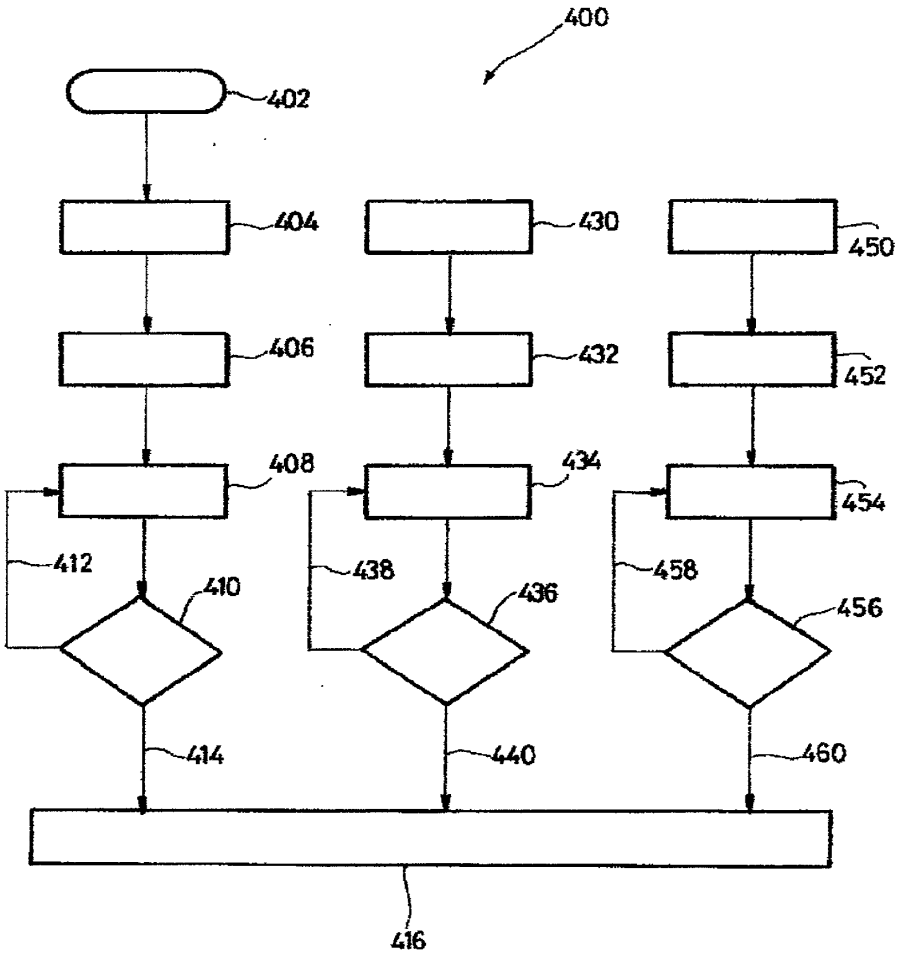

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FIG_5

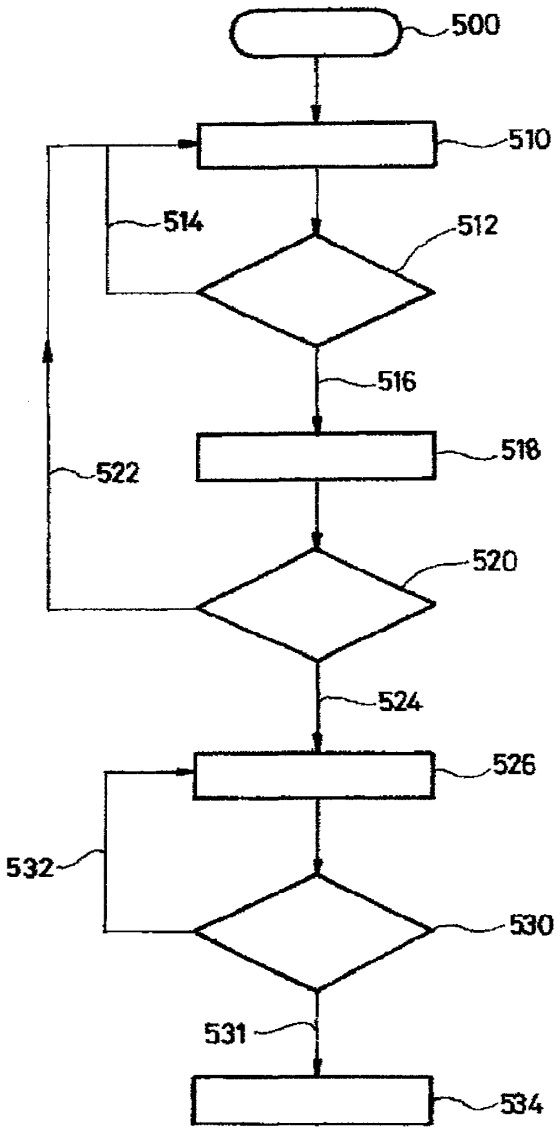


FIG_6

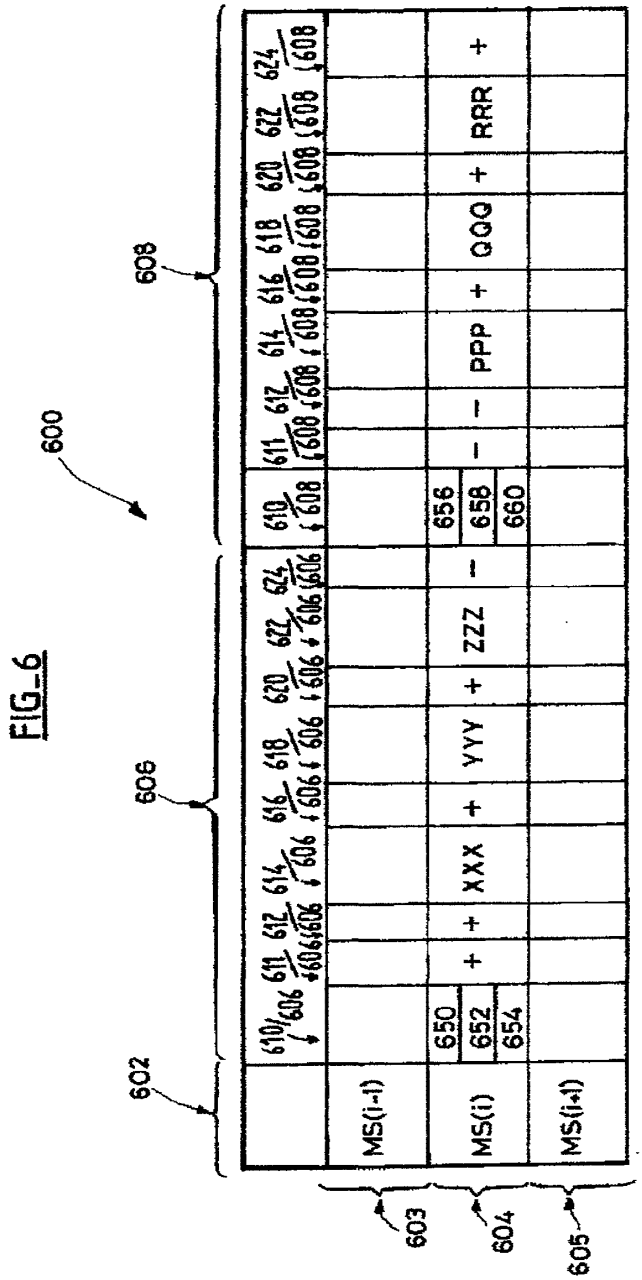
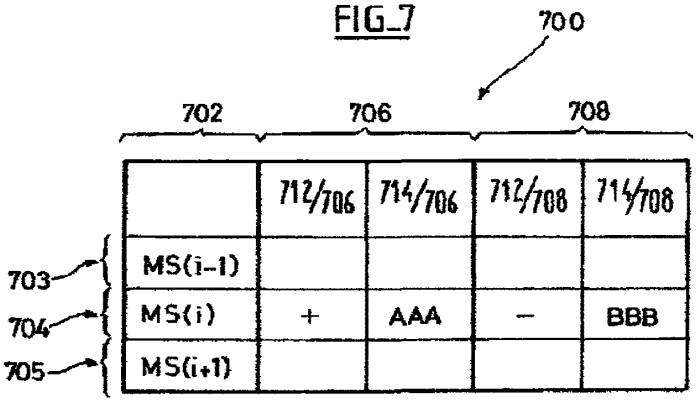

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602
606
608
610
611
612
614
616
618
620
622
624
MS(i-1)
MS(i)
MS(i+1)
650
652
654
656
658
660
+
XXX
YYY
ZZZ
PPP
QQQ
RRR
603
604
605

FIG_7


700
702
706
708
712/706
714/706
712/708
714/708
703
MS(i-1)
704
MS(i)
+
AAA
–
BBB
705
MS(i+1)

Method and system for monitoring a mobile station presence in a special area.

Method for monitoring the presence of a mobile station (200) in at least one special area (203,203b), wherein a radio communication defining device (212,212b) transmits one radio distinctive defining signal (214,214b) that defines the special area by its coverage, the mobile station processes a signal received in order to determine whether or not it is a defining signal and more precisely a distinctive one that defines the special area, the mobile station sends an updating signal to a mobile telephone network, the network routes the updating signal to special operating means that adapt the value of an operating parameter.

According to the invention, the special area is associated to the mobile station by transmitting to the mobile station a checking data used by the mobile station for determining whether or not the defining signal received is a distinctive defining signal.

Figure 2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Carlos A. Perez Lafuente	Art Unit: 2642
Application No: 14/250,517	Examiner: Not Yet Assigned
Confirmation No: 1071	
Filed: April 11, 2014	Atty. Docket No: 122358-363771
For: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	Customer No: 26694 PATENT TRADEMARK OFFICE

RESPONSE TO INFORMATIONAL NOTICE TO APPLICANT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

In response to the Informational Notice to Applicant mailed May 1, 2014, Applicants respectfully submit the attached Inventor Declaration.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 22-0261, under Order No. 122358-363771.

Dated: June 6, 2014
#8204631v1

Respectfully submitted,

By: /Jeffri A. Kaminski/
Jeffri A. Kaminski
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Attorney/Agent For Applicant

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

As the below named inventor, I hereby declare that:

This declaration is directed to:
- [ ] The attached application, or
- [x] United States application or PCT international application number 14/250,517 filed on April 11, 2014.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Carlos A. Perez Lafuente Date (Optional): APRIL 14, 2014

Signature: Carlos Perez Lafuente

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

Corrected Application Data Sheet

Inventor Information

Inventor Number::	1
Name Prefix::	Mr.
Given Name::	Carlos
Middle Name::	A.
Family Name::	Perez Lafuente
City of Residence::	Madrid
Country of Residence::	Spain
Street of mailing address::	C/ Julio Palacios, 13, Esc. Izq. 8 E
City of mailing address::	Madrid
Country of mailing address::	Spain
Postal or Zip Code of mailing address::	28029

Correspondence Information

Correspondence Customer Number::	26694
E-Mail address::	jakaminski@venable.com
E-Mail address::	ptomail@venable.com

Application Information

Application Number::	14/250,517
Filing Date::	04/11/14
Application Type::	Regular

Subject Matter::	Utility
CD-ROM or CD-R?::	None
Sequence submission?::	None
Computer Readable Form (CRF)?::	No
Title::	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
Attorney Docket Number::	122358-363771
Request for Early Publication?::	No
Request for Non-Publication?::	No
Total Drawing Sheets::	7
Small Entity?::	Yes
Petition included?::	No

Representative Information

Representative Customer Number:: 26694

Domestic Priority Information

Application::	Continuity Type::	Parent Application::	Parent Filing Date::
This Application is a	National Stage of	PCT/EP2007/052939	03/27/2007
PCT/EP2007/052939	An application claiming the benefit under 35 USC 119(e)	12/294,641	04/12/2010

Foreign Priority Information

Country::	Application number::	Filing Date::	Priority Claimed::
~~World Intellectual Property Organization (WIPO)~~ Europe	06111804.8~~PCT/EP 2007/052939~~	03/28/2006~~0 3/27/07~~	~~Yes~~ Yes

Applicant Information

Applicant Number::	1
Applicant Type::	Assignee
Organization Name::	AFIRMA CONSULTING & TECHNOLOGIES, S.L.
Street of mailing address::	C/Julio Palacio 13, 8
City of mailing address::	Madrid
Country of mailing address::	Spain
Postal or Zip Code of mailing address::	28029

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.			
Signature	/Jeffri A. Kaminski/	Date	June 6, 2014
Name (Print/Type)	Jeffri A. Kaminski	Registration No. (Attorney/Agent)	42,709

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/250,517	04/11/2014	2642	800	122358-363771	12	2

CONFIRMATION NO. 1071

26694
VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

FILING RECEIPT



Date Mailed: 05/01/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

CARLOS A. PEREZ LAFUENTE, Madrid, SPAIN;

Applicant(s)

AFIRMA CONSULTING & TECHNOLOGIES, S.L., Madrid, SPAIN

Assignment For Published Patent Application

AFIRMA CONSULTING & TECHNOLOGIES, S.L., Madrid, SPAIN

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 12/294,641 04/12/2010 which is a 371 of PCT/EP2007/052939 03/27/2007

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
EUROPEAN PATENT OFFICE (EPO) 06111804.8 03/28/2006

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 04/30/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/250,517**
Projected Publication Date: 08/07/2014
Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

Preliminary Class

455

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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NOT GRANTED

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Carlos A. Perez LaFuente	Art Unit: 2642
Application No: 14/250,517	Examiner: Not Yet Assigned
Confirmation No: 1071	
Filed: April 11, 2014	Atty. Docket No: 122358-363771
For: MECHANOLUMINESCENT X-RAY GENERATOR	Customer No: 26694 PATENT & TRADEMARK OFFICE

REQUEST FOR CORRECTED FILING RECEIPT

Office of Initial Patent Examination's Filing Receipt Corrections
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

Applicants hereby request that a corrected Filing Receipt be issued in the above-identified patent application. The official Filing Receipt received by Applicant, a copy of which is attached hereto, has an error. Please correct the Filing Receipt as follows:

Under "Domestic Priority data as claimed by applicant"

This application is a Continuation of 12/294,641 04/12/2010
which is a 371 of PCT/EP2007/052939 03/27/2007

A Corrected Application Data Sheet is filed concurrently herewith.

Applicant additionally requests that all pertinent U.S. Patent and Trademark Office records relating to the subject application be changed to reflect this correction.

Applicant additionally requests that all pertinent U.S. Patent and Trademark Office records relating to the subject application be changed to reflect this correction.

Dated: June 6, 2014
#8204897v1

Respectfully submitted,

By: /Jeffri A. Kaminski/
Jeffri A. Kaminski
Registration No.: 42,709
VENABLE LLP
P.O. Box 34385
Washington, DC 20043-9998
(202) 344-4000
(202) 344-8300 (Fax)
Attorney/Agent For Applicant

Electronic Acknowledgement Receipt

EFS ID:	19233225
Application Number:	14250517
International Application Number:	
Confirmation Number:	1071
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Customer Number:	26694
Filer:	Jeffri Kaminski
Filer Authorized By:	
Attorney Docket Number:	122358-363771
Receipt Date:	06-JUN-2014
Filing Date:	11-APR-2014
Time Stamp:	13:47:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Response to Pre-Exam Formalities Notice	ResponsetoInformationNoticetoApplicant.pdf	84720 d52d98d42a404972247c04165c0750217c9f239c	no	1

Warnings:	
Information:	

2	Oath or Declaration filed	Declaration.pdf	125672 0e57a3b50bb4135c52ddefccc3f9853c4dbbfae1	no	1
Warnings:					
Information:					
3	Application Data Sheet	CorrectedApplicationDataSheet.pdf	84181 0d56b452e8b1284adf9df3190b37b7be83b094d2	no	3
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
4	Miscellaneous Incoming Letter	MarkedupFilingReceipt.pdf	178665 9f6cbc2b472ab528186a3e0dd06a59c4f9de057c	no	3
Warnings:					
Information:					
5	Request for Corrected Filing Receipt	RequesttforCorrectedFilingReceipt.pdf	94876 9c7f44fe9d374fb1e7b32b72d4ab0dd95b460057	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	568114		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/250,517	04/11/2014	2642	800	122358-363771	12	2

CONFIRMATION NO. 1071

26694
VENABLE LLP
P.O. BOX 34385
WASHINGTON, DC 20043-9998

FILING RECEIPT



Date Mailed: 05/01/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)
CARLOS A. PEREZ LAFUENTE, Madrid, SPAIN;

Applicant(s)
AFIRMA CONSULTING & TECHNOLOGIES, S.L., Madrid, SPAIN

Assignment For Published Patent Application
AFIRMA CONSULTING & TECHNOLOGIES, S.L., Madrid, SPAIN

Power of Attorney: None

Domestic Priority data as claimed by applicant
This application is a CON of 12/294,641 04/12/2010

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)
EUROPEAN PATENT OFFICE (EPO) 06111804.8 03/28/2006

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 04/30/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/250,517**
Projected Publication Date: 08/07/2014
Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

Preliminary Class

455

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/250,517	04/11/2014	CARLOS A. PEREZ LAFUENTE	122358-363771

CONFIRMATION NO. 1071

26694
VENABLE LLP
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WASHINGTON, DC 20043-9998

NOTICE

OC000000068155509

Date Mailed: 05/01/2014

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
  CARLOS A. PEREZ LAFUENTE

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/250,517

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	70		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	300		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	12 minus 20 =	*	x 40 =	0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*	x 210 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	730		TOTAL	

APPLICATION AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

PTO/AIA/15 (03-13)
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UTILITY PATENT APPLICATION TRANSMITTAL

(ONLY FOR NEW NONPROVISIONAL APPLICATIONS UNDER 37 CFR 1.53(B))

Attorney Docket No.	122358-363771
First Named Inventor	Carlos A. Perez Lafuente
Title	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
Express Mail Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: **Commissioner for Patents**
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1. [ ] **Fee Transmittal Form** (PTO/SB/17 or equivalent)
2. [X] **Applicant asserts small entity status.** See 37 CFR 1.27
3. [ ] **Applicant certifies micro entity status.** See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent.
4. [X] **Specification** [*Total Pages* 39]
   Both the claims and abstract must start on a new page.
   (See MPEP § 608.01(a) for information on the preferred arrangement)
5. [X] **Drawing(s)** *(35 U.S.C. 113)* [*Total Sheets* 7]
6. **Inventor's Oath or Declaration** [*Total Pages*]
   (including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e))
   a. [ ] Newly executed (original or copy)
   b. [ ] A copy from a prior application (37 CFR 1.63(d))
7. [X] **Application Data Sheet** **See note below.* See 37 CFR 1.76 (PTO/AIA/14 or equivalent)
8. [ ] **CD-ROM or CD-R** In duplicate, large table, or Computer Program *(Appendix)*
   [ ] Landscape Table on CD
9. **Nucleotide and/or Amino Acid Sequence Submission** *(if applicable, items a. – c. are required)*
   a. [ ] Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. [ ] CD-ROM or CD-R (2 copies); or ii. [ ] Paper
   c. [ ] Statements verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

10. [ ] **Assignment Papers**
    (cover sheet & document(s))
    Name of Assignee
11. [ ] **37 CFR 3.73(c) Statement** *(when there is an assignee)* [ ] **Power of Attorney**
12. [ ] **English Translation Document** *(if applicable)*
13. [X] **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    [ ] Copies of citations attached
14. [ ] **Preliminary Amendment**
15. [ ] **Return Receipt Postcard** *(MPEP § 503) (Should be specifically itemized)*
16. [ ] **Certified Copy of Priority Document(s)** *(if foreign priority is claimed)*
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18. [ ] Other:

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18. CORRESPONDENCE ADDRESS

[X] The address associated with Customer Number: 26694 ***OR*** [ ] Correspondence address below

Name					
Address					
City		State		Zip Code	
Country		Telephone		Email	

Signature	/Jeffri A. Kaminski/	Date	April 11, 2014
Name (Print/Type)	Jeffri A. Kaminski	Registration No. (Attorney/Agent)	42,709

METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. National Phase Application No. 12/294,641, filed April 12, 2010 which claims priority to International Application No. PCT/EP2007/052939 filed March 27, 2007 which claims benefit of the European Patent Application No. 06111804.8 filed March 28, 2006 each of which is hereby incorporated herein by reference in their entireties.

BACKGROUND ART

[0002] This invention relates to a method for monitoring a mobile station presence in a special area. This invention relates also to a mobile system, a server, a radio transmitting device, and a mobile station suitable for carrying out such a method.

[0003] Development of short range wireless communication solutions based on the use of Bluetooth, DECT and WIFI within a small area such as homes is strong competition for mobile operators owning wide mobile networks. A mobile telephone network (called also mobile network) includes a large number of base stations and all the data processing means required to provide the telecommunication service to each mobile station serviced by said mobile network.

[0004] These short range wireless communication solutions can provide direct connection to fixed networks whose operators offer cheaper rates than those offered by mobile networks. It can therefore be of interest for mobile network operators to offer different rates depending on the instantaneous location of a mobile station connected to its mobile network, in particular in areas; called special areas, where it could face strong competition from some short range wireless communication solutions.

[0005] The published patent application n^{0} US20020094801 describes a technical solution: a fixed station sends an encoded first signal and the coverage of said first signal defines a

special area. The fixed station and a mobile station using the special area are linked one another via the signal code. But this document does not disclose anything about the content of said coded signal. In order to realize protection against the abuse of the system, in an embodiment, this document proposes to provide the fixed station with receiving and comparison means for an access code that is to be applied to the fixed station via the mobile station in order to put the fixed station into operation.

[0006] The international application WO 00/27152 offers another solution for locating a mobile station based on the use of a guide unit that broadcasts a short range radio signal which defines a home area. This document discloses that the short range radio signal contains the identity code of said mobile station that has to identify its own identity code in order to notice to a mobile switching centre that it is located in its home area. This mobile station transmits then a home message to the mobile network, this home message being possibly used notably for defining the price/service connected to telephone calls. In this last, technical solution, the guideunit has to know the identity of the mobile station and this last solution is thought to be used for a home special area.

[0007] However, this last technical solution does not allow the mobile network, to add for a mobile station one or more special areas wherein the presence of a mobile station is monitored without having to at least modify one or more guide units broadcasting in such areas. It lacks therefore of flexibility.

DISCLOSURE OF THE INVENTION

[0008] An object of the invention is therefore to provide a method for monitoring the presence of a mobile station in at least one special area, said method providing the flexibility to the mobile telephone network of associating new special areas for this mobile station in a secure way without modifying any radio transmitting device.

[0009] This object is achieved in accordance with claim 1 by providing a method for monitoring the presence of a mobile station in at least one special area associated to the mobile station, the method comprising the following steps:

a. at least one radio communication defining device transmits repeatedly in at least a channel one radio distinctive defining signal that defines the special area by its coverage

b. the mobile station observes the channel and process any signal
received in order to determine whether or not it is receiving any defining signal,
c. the mobile station processes any defining signal received in order to determine whether or not the defining signal received is a distinctive defining signal that defines the special area,
d. the mobile station sends an updating signal to a mobile telephone network about its presence in the special area,
e. the mobile telephone network routes the updating signal to special operating means that adapt the value of at least one operating parameter depending on the presence of the mobile station in the special area, the said method is characterized in that the special area is associated to the mobile station by transmitting to the mobile station a checking data, this checking data being used by the mobile station for determining whether or not the defining signal received is a distinctive defining signal that defines, alone or with other distinctive defining signals, the special area associated to the mobile station and the same checking data being sent to any mobile station whose presence in this special area is monitored.

[0010] Advantageously from the operator's point of view, the invention brings the flexibility needed to activate a special way of operating a mobile station in a special area by transmitting a checking data that will be stored in a mobile station database without having to modify, by way of introducing any new data (notably the identity code of said mobile station), at least one radio communication defining device likein the aforementioned international patent application WO 00/27152. Therefore, a radio communication defining device is not required to store all the mobile stations identity codes using the special area defined by at least the coverage of its defining signal(s).

[0011] According to the present invention, a special area associated to a mobile stationcan be defined by one or more defining signals. Therefore the checking data may preferably contain information included in every defining signals defining completely a special area (each one defines it partially) and the mobile station try to find any of this information in any defining signal received with comparison means. The mobile station may receive defining signals that do not define any special area for it. In the case where the special area is defined by two or

more defining signals, this special area may be the intersection of all or part of them or the global coverage of the defining signals.

[0012] In addition, a method according to the invention is specially suitable to be used in environments like for example airports, company's premises or business centres where the number of different mobile stations to be serviced by the mobile telephone network would be high. With the solution of the aforementioned international patent application WO 00/27152, it would be necessary to store and transmit in and from a single radio communication defining device all the mobile station identity codes of the potential mobile stations using a special area defined in such environment, operation which would difficult or even impossible considering that the radio spectrum is a limited resource. Therefore, the application WO 00/27152 has a narrower geographical scope of usability. It is also not required, thanks to the invention, to send any activation code to activate a radio communication defining device and it is not required to store all the mobile stations activation codes in the radio communication defining device, as in one embodiment of the published patent application n2US20020094801. Therefore, it is easier with this present invention to realize protection against abuse of the system.

[0013] The special operating means may be at least partly included in the data processing means of the mobile telephone network. All of them or part of them may be own or operate by an external provider of the mobile telephone network.

[0014] In a particular embodiment, the special area is deactivated for the mobile station by the mobile telephone network sending a deactivation signal to the mobile station to stop the mobile station from recognizing a defining signal that defines that special area as a distinctive one.

[0015] In a particular embodiment, the special operating means acknowledge the reception of the updating signal and transmit an acknowledgement signal to the mobile station. In this embodiment, the mobile station knows advantageously if the mobile telephone network received the updating signal or not.

[0016] In a particular embodiment, at least one radio communication defining device is a wireless device whose radio defining signal that defines the special area is distinctive wireless signal transmitted by the wireless device in a frequency range outside the frequency

range allocated for the mobile telephone network. Preferably, the said distinctive wireless signal contains wireless device identification data and reliable information confirming that the wireless device is effectively located into a predetermined environment. The operator of the mobile telephone network advantageously avoids fraud linked to a possible shifting of the wireless device. The checking data associated to this wireless device includes this wireless device identification data.

[0017] In another particular embodiment, at least one radio communication defining device is a base station whose radio distinctive defining signal that defines the special area is a distinctive signal comprising a special mobile telephone network identification code, the checking data associated to this base station includes this special mobile telephone network identification code.

[0018] In another particular embodiment, at least one radio communication defining device is a base station whose radio distinctive defining signal that defines the special area is a distinctive base station identity signal comprising an identification code of the base station, the checking data associated to this base station includes this base station identification code. The mobile telephone network operator controls and knows the location of all the base stations broadcasting identification codes contained into the mobile station database and therefore advantageously controls the location of the special area.

[0019] In an embodiment of this invention, the special operating means store a parameters database linking the special area to the mobile station and to a set of at least the operating parameter; and the special operating means adapt the value of at least an operational parameter of this set when they receive an updating signal signalling that the mobile station exits or enters the special area. Thanks tothis embodiment of the invention, the processing of these operating parameters is centralized in the special operating means and it is not done in each base station. In case the mobile station will be switch off, the mobile network operator will decide whether or not the values of the operating parameters associated to the presence of the mobile station into special operating areas remain unchanged or are disabled into the database containing the set of operating parameters as consequence of the switching off process.

[0020] In a particular embodiment, the operating parameter is a tariff or a service flag that enables or disables a special tariff or a service for the mobile station. Advantageously, the operator's services offer can therefore being dependent on the location of the mobile station.

[0021] In a particular embodiment, the updating signal includes a request to access to a service or to a multimedia content and the mobile telephone network routes this request to a part of the special operating means that allow or forbid the provision of this service or multimedia content depending on whether or not the mobile station is into the special area. This part of the special operating means may be operated by the mobile telephone network operator or by a different provider.

[0022] In a particular embodiment, the transmission of the checking data to the mobile station is done via the mobile telephone network or via a signal of at least one radio device or via a person introducing the checking data in the mobile station.

[0023] According to the present invention, there is further provided a mobile system for monitoring the presence of a mobile station in a special area defined for this mobile station, said system comprising :

- checking means for detecting the presence of the mobile station in the special area associated to this mobile station, said checking means including

  - At least one radio communication defining device transmitting repeatedly in at least a channel a radio distinctive defining signal that defines the special area,

  - in the mobile station, observing means for observing the channel and processing means for processing any signal received in the channel in order to determine whether or not the signal received is a defining signal and, if the signal received is a defining signal, whether or not the signal received is a distinctive defining signal that defines the special area,

- transmission means for sending an updating signal regarding the presence of the mobile station in the special area from the processing means to special operating means included at least partly in data processing means of the mobile telephone network,

- the special operating means for adapting the value of at least one operating parameter depending on the presence of the mobile station in the special area, characterized in that the said mobile system comprises storing means for storing a checking data in the mobile station, the processing means include means for using this checking data for determining whether or not the defining signal received is a distinctive defining signal that defines, alone or with other distinctive defining signals, the special area and the same checking data is sent to any mobile station whose presence in this special area is monitored.

[0024] In a particular embodiment of the invention, the mobile system comprises special area location monitoring means for monitoring the correct location of at least a part of the special area. It is then harder to fraud by moving the radio communication defining device. In a particular embodiment of the invention, the mobile system carries out a method according to the present invention.

[0025] This invention also concerns a server. According to the invention, this server is characterized in that it contains at least some of the special operating means included in the mobile system according to the present invention. This server may contain the whole or part of the special operating means. In this last case, the special operating means may be spread in several servers or computers.

[0026] According to the present invention, there is further provided a radio communication defining device, characterized in that it carries out a method according to the present invention. In a particular embodiment, the said radio communication defining device of the invention is a wireless device and it contains means for transmitting the distinctive wireless signal that defines the special area and means for obtaining reliable information indicating whether or not the said wireless device is located into a predetermined environment.

[0027] This invention also concerns a mobile station, characterized in that this mobile station is suitable to carry out a method according to the present invention. This mobile station may be a mobile telephone or a Personal Digital Assistant for example.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] In the following detailed description of some possible embodiments, other features and advantages of the invention will appear, each description being made with reference to the following drawings:

[0029] Figure 1 is a schematic diagram illustrating an embodiment of a mobile system according to the invention;

[0030] Figure 2 is a schematic diagram illustrating another embodiment of a mobile system according to the invention;

[0031] Figure 3 is a schematic diagram illustrating another embodiment of a mobile system according to the invention;

[0032] Figure 4 is a flow chart illustrating partly an embodiment of a method according to the invention;

[0033] Figure 5 is a flow chart illustrating another part of an embodiment of a method according to the invention;

[0034] Figure 6 is a schematic diagram of a part of an operating parameters database in an embodiment of the invention;

[0035] Figure 7 is a schematic diagram of a part of another operating parameters database in an embodiment of the invention.

DETAILED DESCRIPTION

[0036] A mobile station serviced by the mobile telephone network. The mobile telephone network may be cellular or not.

[0037] In this description and in the claims, it is supposed, in the case that the mobile telephone network is cellular, that each base station of the cellular mobile telephone network is associated to a unique cell. Therefore, some base stations of the cellular mobile network can be located in the same location and share technical means. For example, a tower may incorporate three sets of antennas, each set being part of a different base station of the same mobile network.

[0038] Figure 1, figure 2 and figure 3 are three schematic figures describing three particular embodiments of mobile systems according to the invention.

[0039] Figure 1 is a schematic diagram illustrating an embodiment of the invention wherein:

- any base station 107 or 105 of a mobile telephone network of an operator is a radio communication defining device transmitting a radio defining signal in a channel used by the mobile telephone network,

- the distinctive radio defining signal that defines the special area is a distinctive signal transmitted by some selected base stations 105, said distinctive signal comprising a special mobile telephone network identification code. The sum of the coverage of these selected base stations 105 defines a special area (the shaded area of figure 1).

- the checking data includes this special mobile telephone network identification code.

[0040] More precisely, Figure 1 shows a geographical area 102 covered by the mobile telephone network. The radio coverage of the mobile telephone network in this geographical area 102 is the addition of the radio coverage 104 and 106 of several base stations 105 and 107. The mobile telephone network includes data-processing means that comprise a server according to the invention including special operating means according to the invention.

[0041] Each base station is transmitting network data, including a mobile telephone network identification code, which allows a mobile station 100 in the geographical area 102 to select the appropriate mobile telephone network.

[0042] The operator of the mobile telephone network defines one special mobile telephone network identification code, called IC2, (in another embodiment, the operator may create more than one special mobile telephone network identification code) different from a normal mobile telephone network identification code, called IC1. Then the operator configures its mobile telephone network in such a way that some base stations 107 (in general the majority of them) transmit a radio defining signal comprising the normal mobile telephone network identification code and the selected base stations 105 (in general a minority of them) transmit a distinctive defining signal comprising a special mobile telephone network identification code.

[0043] The checking data (i.e. IC2) is stored into an internal mobile station database included in mobile station 100 storing means, this mobile station 100 being associated to this special area. The same checking data is sent to any mobile station whose presence in this special area is monitored.

[0044] The mobile station 100 contains observing means and processing means for determining that the distinctive defining signal transmitted by any base station 105 is received. These processing means include means for using the checking data that include, in this embodiment, comparing means:Thanks to these comparing means, the mobile telephone network identification codes received by the mobile station are compared to IC2 stored into the internal mobile station database: If the mobile station is in a position like the position (a) in figure 1, i.e. inside the special area, the mobile telephone network identification code received is equal to IC2 and therefore the mobile station 100 determines that it is into the special area. Otherwise, if the mobile station 100 is in position like the position (b) in figure 1, i.e. outside the special area, the mobile station 100 receives a defining signal containing 101 different from IC2 and determines that it is not receiving any distinctive defining signal and therefore that it is not into the special area.

[0045] For example, if the mobile station 100 is a GSM mobile station operating into a GSM mobile telephone network, the mobile station 100 has the capability to store the received mobile telephone networks identification codes into a mobile station 100 memory. In that case, the mobile station 100 may access to such internal memory to get data to determine, together with the checking data (i.e. IC2), whether or not it is receiving any distinctive defining signal.

[0046] With the exception of the processes concerning the invention, a special mobile telephone network identification code (IC2) is equivalent, from the perspective of both the mobile station and the mobile telephone network, to a normal mobile telephone network identification code (IC1). In this context, processes such as network selection, selection / reselection of base stations and handover will not be influenced because some base stations transmit IC1 and some other transmit IC2, such lack of influence meaning that all the mobile station and the mobile telephone network processes (except the processes concerning the invention) will be handle as if IC1 and IC2 would be the same code.

[0047] For example, a mobile telephone network operator can use this embodiment of the invention to offer one set of normal billing rates in-an urban environment of a country, and another set of special billing rates for a rural environment. Another example of the application of this embodiment of the invention is for a mobile telephone network operator to offer normal billing rates for the whole country except in industrial areas or business districts.

[0048] Figure 2 is a schematic diagram illustrating an example of another embodiment of a mobile system according to the invention wherein the radio communication defining device is a wireless device (212 or 212b), e.g. a WIFI, Bluetooth or DECT device, the radio distinctive defining signal that defines the special area is a distinctive wireless signal 214 or 214b (e.g. a WIFI, Bluetooth or DECT signal) transmitted by the wireless device (212 or 212b) in a frequency range outside the frequency range allocated for the mobile telephone network. A mobile station 200 whose presence in the special area is monitored includes observing means and processing means for

determining whether or not any defining signal is received inthe frequency range used by the wireless device.

[0049] Each distinctive wireless signal contains wireless device identification data and reliable information confirming that its transmitting wireless device (212 or 212b in figure 2) is effectively located into a predetermined environment. The checking data comprises a set of at least one wireless device identification data.

[0050] The predetermined environment may be one or more specific geographical locations (for example several fixed points into a restaurant) or a physicalenvironment that can be mobile (for example a car, a plane or a boat). The predetermined environment is defined by the operator of the mobile telephone network.

[0051] The distinctive wireless signals are preferably coded and the mobile station 15 processing means include decoding means to decode the wireless signals received.

[0052] The mobile system comprises special area location monitoring means for monitoring the correct location of any wireless device that may transmit a distinctive wireless signal into this predetermined environment and therefore for monitoring at least a part of the special area.

[0053] In a particular embodiment of the special area location monitoring means, the reliable information comprised into the wireless signal confirms that the wireless device is effectively located into a predetermined geographical environment defined by the operator of the mobile telephone network when:

the wireless device able to receive a RBU signal from at least one radio broadcasting unit (RBU)

RBU identification data is comprised into the RBU signal,

the wireless device receives, through the RBU signal from the RBU, the RBU identification data that are included into a RBU identification database of the wireless device..

[0054] The storage of the RBU identification data into the wireless device RBU identification data database may be done at the Wireless device configuration stage. In the particular example of figure 2 and the wireless device 212, the RBU is a base

station 205 of the mobile telephone network, the RBU identification data is a base station identification code. The wireless device 212 is authenticated into the mobile telephone network comprising the base station 205 and may receive the base station signal 220 when it is located within the range of coverage 204 of the base station 205.

[0055] In a second example of embodiment of the special area location monitoring means, the reliable information comprised into the wireless signal confirms that the wireless device is effectively located into a predetermined geographical environment defined by the operator of the mobile telephone network when it is physically connected to any fixed network connection points defined by the operator of the mobile telephone network for the special area and it is also authenticated into the said fixed network through any of the mentioned fixed network connection points. In this embodiment, the wireless device also comprises means for communicating with the fixed network. In a particular example of this embodiment, some parameters are stored into the wireless device during its configuration stage and such parameters are used by the wireless device to perform the said authentication process into the fixed network.

[0056] These connection points may be PSTN (`Public Switching Telephony Network') connectors for ADSL network services or electrical sockets for PLC (`Power Line Communication') home network services for example: In the particular example of figure 2 and the wireless device 212b, the wireless device 212b has to be connected to a connection point 230 of a fixed network and authenticated in this fixed network so that the reliable information comprised into the wireless signal 214b confirms that the wireless device is effectively located into a predetermined geographical environment.

[0057] In the third example of an embodiment of the special area location monitoring means (not illustrated in figure 2), the reliable information comprised into the wireless signal confirms that the wireless device is effectively located into a predetermined physical environment defined by the operator of the mobile telephone network when:

the wireless device is physically connected to a system registered and authorised by the mobile telephone network operator for the purposes of the invention and

the wireless device is authenticated into the mentioned system.

[0058] In a particular example of this embodiment some parameters are stored into the wireless device during its configuration stage and such parameters are used by the wireless device to perform the referred authentication process into the system. This system may be, in an example, embedded in a mobile device such as a car or a boat.

[0059] More precisely, Figure 2 shows a geographical area 202 covered by a mobile telephone network of an operator, the radio coverage of the mobile telephone network in this geographical area 202 being the addition of the radio coverage of several base stations 205 and 207. The mobile telephone network includes a server according to the invention comprising special operating means. In this embodiment, a wireless device 212 is located in a geographical environment agreed between the operator and the user, such as for example near to the user's house or near his/her work place. The wireless device 212b is located either into a geographical environment, such as for example the user's home, or into a physical environment, which may be mobile, such as for example the user's car, such environments being agreed between the operator and the user.

[0060] The checking data associated to a special area is stored into an internal mobile station database included in a memory (storing means) of a mobile station 200 associated to this special area.

[0061] Processing means comprised in the mobile station 200 compare any wireless device identification data received with the checking data stored in its internal mobile station database and determines that a wireless signal received is adistinctive wireless signal when:

such wireless signal is coded in a format predefined for a distinctive wireless signal and

the wireless device identification data comprised into the wireless signal is equal to at least one of the wireless device identification data stored into the internal mobile station database and

the reliable information comprised into the wireless signal confirms that the wireless device is effectively located into a predetermined environment.

[0062] Otherwise the mobile station 200 determines that the wireless signal received is not a distinctive wireless signal.

[0063] In the embodiment illustrated by the figure 2, the sum of the coverage (203,203b) of the wireless devices 212 and 212b transmitting distinctive wireless signals 214 and 214b defines a special area for the mobile station 200 according to the invention.

[0064] Transmission means for sending an updating signal regarding the presence of the mobile station 200 in the special area (203, 203b) from the processing means to the special operating means are partly comprised in the mobile station 200 and in the mobile telephone network. The updating signal may comprise the result of the last determination performed by the mobile station about its presence into the special area. In another embodiment, the reliable information related to whether or not the wireless device 212 or 212b is or not effectively located into its predetermined environment is also included into the updating signal.

[0065] In this embodiment, an operator of a mobile telephone network covering a geographical area 202 may offer cheaper rates, called special billing rates, to the user of a mobile station 200 if he uses his/her mobile station 200 within the range of coverage 203 of the wireless device 212 (position (a) of the mobile station 200) or within the range of coverage 203b of the wireless device 212b (position (b) of the mobile station 200).

[0066] As an example, a mobile telephone network operator can use this embodiment of the invention to offer one set of special billing rates in premises associated to the

user of the mobile station 200 as may be houses, cars or boats, and another set of normal billing rates for the rest of the environments where the user may use the mobile station 200. Another example of the application of this embodiment of the invention is for a mobile telephone network operator to offer normal billing rates for the whole country except in industrial areas, airports or restaurants.

[0067] Figure 3 is a schematic diagram illustrating an example of another embodiment of a mobile system according to the invention wherein the radio communication defining device is a base station, the radio defining signal that defines the special area is a distinctive base station identity signal comprising an identification code that identifies this base station, the checking data includes a set of at least one base station identification code.

[0068] Figure 3 shows a geographical area 302 covered by a mobile telephone network of an operator, the radio coverage of the mobile telephone network in this geographical area 302 being the addition of the radio coverage 304 and 306 of several base stations 305 and 307. The mobile telephone network includes a server according to the invention comprising special operating means.

[0069] Any mobile station 300 whose presence in the special area is monitored includes observing means and processing means for observing and processing the base station identity signal of the mobile telephone network base stations 305 and 307.

[0070] The checking data is stored into an internal mobile station database included in a memory (storing means) of a mobile station 300 associated to this special area.

[0071] Processing means of the mobile station 300 process the base stations identity signals received and compare their base station identification codes to the checking data and determine that at least one distinctive base station identification code signal is received (i.e. the mobile station 300 is in position (a)) when any of the base station identification codes received is equal to at least one of the base 17station identification codes stored into the internal mobile station database and otherwise determine that it is not receiving any distinctive base station identification code signal (i.e. the mobile station 300 is in position (b)).

[0072] For example, when a GSM mobile station is operating into a GSM mobile telephone network, the GSM mobile station 300 receives the identification code of the active base station and also the identification codes of some available neighbours base stations. The GSM mobile station 300 may consequently process the base station identification codes received to determine, together with the checking data, whether or not it is receiving any distinctive base station identification code signal.

[0073] The sum of the coverages 304 of the base stations 305 transmitting distinctive base station identification code signals defines a special area for the mobile station 300 according to the invention.

[0074] In this embodiment, an operator of a mobile telephone network covering a geographical area 302 may offer special services to the user of a mobile station 300 if he uses his/her mobile station 300 within the range of coverage of the base stations 305.

[0075] As an example a mobile telephone network operator can use this embodiment of the invention to offer one set of normal billing rates in an urban environment of a country, and another set of special billing rates for a rural environment. Another example of the application of this embodiment of the invention is for a mobile telephone network operator to offer normal billing rates for the whole country except in industrial areas or small towns.

[0076] Any combination of the embodiments of a mobile system according to the invention described herein is another embodiment here below of a mobile system according to the invention. That combination can be the result from 'N' different distinctive defining signals, each one comprising a different special mobile telephone network identification code or a different wireless device identification data or a different base station identification code..

[0077] For example, the mobile telephone network operator can then propose 'N' different sets of rates for 'N' different kinds of special areas for a given mobile station. In an example, an operator installs in the user's house a wireless device whose position is controlled by being or not in the range of coverage of a particular base station of the mobile network, another wireless device whose-• position is controlled by its

connection to a fix network in the user's holiday cottage and a third wireless device whose position is controlled by its connection to a system embedded in the user's car. The operator creates a special mobile telephone network identification code transmitted by the all the base stations of the user's city. Then the operator stores in the storing means of the user's mobile station the three wireless devices identification data, the user's city special mobile telephone network identification code and several sets of base stations identification codes, each set being the setof identification of base stations covering public places like airports and train stations. Then, the operator can adapt the tariffs charged and the services provided to the user depending notably whether his/her mobile station is in its city or outside, in its house, holiday cottage or car and / or in public places.

[0078] An embodiment of a method for monitoring the presence of a mobile station in atleast one special area according to the invention may include at least three parts:

a first part, illustrated in figure 4, that includes the steps needed to successfully transmit, store, erase and maintain checking data in a mobile station according to the invention,

a second part, illustrated in figure 5, that includes the steps needed for the mobile station to monitor its location in the special areas using the checking data that were transmitted to it and

a third part, illustrated in figure 6 and 7, that includes the adaptation of the operational parameters depending on the presence of the mobile station in any special area where this mobile station is monitoring its presence.

[0079] This embodiment of such method according to the invention may be carried out for example using any of the embodiments of mobile systems according to the invention described before.

[0080] Figure 4 is a flowchart of the first part 400 of a method according to one embodiment of the invention for successfully transmit, store, erase and maintain checking data in a mobile station according to the invention.

[0081] A mobile telephone network comprises in this embodiment data processing means that includes special operating means; the special operating means are included in a server and therefore are advantageously centralised and not distributed between each base station of the mobile telephone network.

[0082] An operator of a mobile telephone network (i.e. the company that operates this mobile telephone network) wishes to propose special billing rates and/or special services to users of its mobile telephone network, each user carrying a mobile station, when said users are within special areas of the invention.

[0083] The part 400 of this embodiment starts in step 402 when the operator wishes to monitor the presence of a mobile station in a special area.

[0084] In step 404, the operator defines a new special area if the operator wishes to create a new one. The special areas may be agreed between the operator and the user or simply defined by the operator.

[0085] The definition of the special area can be done by the coverage of one or several radio defining signals or by the intersection of the coverage of two or more radio defining signals.

[0086] In step 406, the operator updates a parameters database included in the special operating means. The parameters database associates each special area defined with the mobile stations whose presence in such special area is monitored. For the purposes of such association, each mobile station is identified into the parameters database by means of a mobile station identifier. In the parameters database, each mobile station identifier is associated with special tariffs and/or services which may be or not available for the mobile station depending on the presence of such mobile station into a given special area (and also depending on whether such tariffs and/or services are enabled or disabled into the parameters database for such mobile station).

[0087] The operating parameter(s) that may be adapted depending on the presence of the mobile station in one or more special areas at the same time may be notably related to activation or deactivation flags of tariffs and/or services provided to the mobile station by the mobile telephone network. Therefore, tariffs may be more or less

expensive for the said mobile station in predetermined special areas and / or the mobile station may be able or unable to use predetermined services offered by the operator of the mobile telephone network in predetermined special areas.

[0088] In step 408, the special operating means send a checking data to the mobile 15 station.

[0089] The checking data transmission can notably be done:

1) by sending the checking data stored in a server of the mobile telephone network to the mobile station through the mobile telephone network transmission channels. In a particular example, the mobile telephone network is a GSM network and the checking data from the server will be sent to the mobile station via encrypted short messages using an 'Over the Air' platform. The mobile station is able to decode the short messages and to store the checking data into an internal mobile station database,

2) through the use of a mobile station special software able to store into an internal mobile station database checking data obtained by the mobile station from at least one radio communication defining device. In a particular example, it may be necessary that an operator's representative introduces a password to allow the mobile station special software to operate. The mobile station special software may ask the operator's representative to validate the storage of the checking data through the mobile telephone keyboard,

3) or via a person (e.g. an operator's representative) who enters the checking data into the mobile station using the mobile station keyboard.

[0090] Regarding the second option, two examples are provided. In a first example, the mobile station is operating in a GSM network, the mobile station obtains from the active cell its cell identification code and from other neighbouring cells, if available, their cell identification codes. When the special software is run for example in the user's home, it is able to obtain such cells identification codes and store them in the internal mobile station database of checking data, associating them with the user's home special area.

[0091] In a second example, the mobile station can obtain, by using a WIFI device embedded into the mobile station, neighbouring WIFI devices identification data. When the special software is run for example in the user's home, it is able to obtain such WIFI device identification data and store them in the internal mobile station database of checking data, associating them with the user's home special area.

[0092] Once the checking data has been successfully stored into the internal mobile station database, a confirmation of new checking data is sent to the parameters database. In addition, notably regarding to the second and third options to transmit checking data to the mobile station, the stored checking data may be sent by the mobile station to the parameters database through the mobile telephone network for the mobile telephone network to know this checking data..

[0093] In step 410, the special operating means wait for the confirmation of new checking data from the mobile station. Once the information is received, it is stored into the parameters database and the special operating means transmit an acknowledgment to the mobile station. In case the mobile station does not receive the acknowledgment after a certain time, the mobile station sends the confirmation of new checking data again until it receives the acknowledgment or until it resents the information up to a maximum number of times.

[0094] It is advantagenous to store the checking data into themobile station, mainly in comparison to the prior art where it was necessary to store mobile station identity codes and/or activation signals into a fix unit.

[0095] If the confirmation of new checking data is not received (possibility 412) by the special operating means, the special operating means transmit again the checking data to the mobile station (step 408).

[0096] When the confirmation of new checking data from the mobile station is received (possibility 414) by the special operating means, the special operating means know in step 416 that the mobile station updated its internal mobile station database and the internal mobile station database is in accordance with the operator wishes.

[0097] After the first special area checking data or set of checking data is stored in the internal mobile station database, the operator can add more in the same way.

[0098] In another hand, in this embodiment of a method according to the invention, the operator can deactivate a special area following the steps 430 to 440.

[0099] In step 430, the operator chooses to deactivate a special area for a mobile station, with or without the agreement of the mobile station user. In step 432, the operator deactivates into the parameters database all the special tariffs and/or services associated to the presence of the mobile station into the special area. In step 434, the special operating means transmit a deactivation signal to the mobile station (using the mobile telephone network) asking the mobile station to erase, into itsinternal mobile station database, the checking data associated with the special area that the operator wishes to deactivate.

[00100] In another embodiment, the deactivation signal just blocks into the mobile station the use of the special area checking data but does not erase it. The result is the same: the deactivation signal avoids the mobile station recognising the special area(s) associated with this deactivation signal.

[00101] The transmission of the deactivation signal may be done notably as in the first and third options for transmitting the checking data (as seen in description of step 408).

[00102] Once the deactivation signal has been successfully received and processed by the mobile station, a confirmation of deactivation is sent to the parameters database. In step 436, the special operating means wait for the confirmation of deactivation from the mobile station. Once the confirmation of deactivation is received by the special operating means (possibility 440), this fact is stored into the parameters database and the special operating means transmit an acknowledgment to the mobile station. In case the mobile station does not receive the acknowledgment after a certain time, the mobile station sends the confirmation of deactivation again until it receives the acknowledgment or, in another embodiment, until it resents the confirmation of deactivation up to a maximum number of times.

[00103] If the confirmation of deactivation is not received (possibility 438) by the special operating means, the special operating means transmit again a deactivation signal to the mobile station (step 434).

[00104] When the confirmation from the mobile station regarding the successful reception and process of the deactivation signal is received (possibility 440) by the operating means, the operating means know in step 416 that the mobile station updated its internal checking data database and the internal mobile station database is in accordance with the operator wishes.

[00105] In another hand, in this embodiment of a method according to the invention, the operator can modify a special area following the steps 450 to 460 to adapt the
internal mobile station database to the operator's wishes. In step 450, the operator chooses to modify a special area for a given mobile station, with or without the agreement of the mobile station user, and defines such modified special area. For example, this can be done by including in the checking data associated to one special area, some additional checking data for the special area being not only the coverage of one distinctive defining signal but the intersection (or the sum) of the coverage of the former one and the coverage of a new one. This can be done too by erasing in a set of checking data associated to one special area, some checking data in order to, for example, transform a special area defined as the intersection (or the sum) of the coverage of two distinctive defining signals into a special area defined as the coverage of one only distinctive defining signal.

[00106] In case the operator wishes to add a new checking data (the steps for erasing one can be easily inferred by analogy), in step 452, the operator updates the parameters database in order to include, if known, the new checking data associated to the mobile station and the modified special area.

[00107] In step 454, the special operating means send, by using any of the three options for transmitting checking data described in step 408, the new checking data to the mobile station using the mobile telephone network.

[00108] Once the new checking data has been successfully stored into the part of the internal mobile station database that contains the checking data linked to the special area that has to be modified, a confirmation of modification of checking data is sent to the parameters database. In addition, typically regarding to the second and third options to transmit checking data to the mobile station described in step 408, the stored new checking data may be sent by the mobile station to the parameters database through the mobile telephone network. In step 456, the special operating means wait for the confirmation of modification of checking data from the mobile station. Once the confirmation of modification is received, this fact is stored into the parameters database and the special operating means transmit an acknowledgment to the mobile station. In case the mobile station does not receive the acknowledgment after a certain time, the mobile station sends the information again until it receives the acknowledgment or, in another embodiment, until it resents the information up to a maximum number of times.

[00109] If the confirmation of modification of checking data is not received (possibility 458) by the special operating means, the special operating means send again the new checking data to the mobile station (step 454).

[00110] When the confirmation of modification sent from the mobile station is received by the special operating means (possibility 460), the special operating means know that in step 416, the mobile station updated its internal checking data database and the internal mobile station database is in accordance with the operator wishes.

[00111] The second part of this embodiment of a method according to the invention is illustrated in figure 5 and includes the steps needed for the mobile station to monitor its location in the special areas using the checking data that were transmitted into it.

[00112] In step 500, a mobile station is switched on. In an embodiment, the mobile telephone network sets the values of the operating parameters managed in the parameters database to a set of initial values when the mobile station is switched off (as at that time it is not present in any special area) in order to start operating the mobile station when it is just switched on. In step 510, the mobile station observes, through the appropriate channel(s), any signal received and process it to determine

whether or not it is receiving any defining signal from . radio communication defining devices (e.g. from the base stations of a mobile telephone network or from wireless devices).

[00113] In one embodiment, the defining signal is coded (or part of the data contained in such a defining signal). In this embodiment, the mobile station is able to decode the information as part of the processing of the defining signals received.

[00114] A radio defining signal from a radio communication defining device may be transmitted on a continuous or periodical basis. The mobile station observation as to whether or not it is receiving any defining signal can be continuous or periodical. In step 512, the mobile station decide if it receives a defining signal (possibility 516) or not (possibility 514) after observing and processing any signal received.

[00115] When one or several defining signals are received, they are processed in step 518 by the mobile station notably in order to compare, in this embodiment, the appropriate part of their content with any checking data stored in the internal mobile station database.

[00116] When a defining signal received is from a wireless device (transmitted in a frequency range outside the frequency range allocated for the mobile telephone network), the mobile station preferably also search in step 518 whether or not the defining signal received contains reliable information confirming (or not) that the wireless device is effectively located into a predetermined environment defined by the operator of the mobile telephone network.

[00117] Then, in step 520, depending on the result of the internal process carried out in step 518, the mobile station decides whether (possibility 524) or not (possibility 522) the defining signal received is a distinctive defining signal that defines a special area for this mobile station, therefore validating or not the defining signal received as a distinctive defining signal.

[00118] If the special area is defined by the sum of the coverage of several distinctive defining signals, the mobile station has to recognize at least one of the three

distinctive defining signals at one time in order to determine that it is into this special area.

[00119] In another example, the mobile station knows that it is into a special area defined as the intersection of the coverage of several distinctive defining signals when it is observing and recognizing at one time all these distinctive defining signals.

[00120] The mobile station may be prepared to display a text or an icon (e.g. 'home' or airport' icon) when the mobile station determines that it is included in a particular special area for this mobile station.

[00121] In step 526, the mobile station sends and updating signal to the mobile telephone network about its presence in the special area.

[00122] In particular embodiment, the mobile station sends periodically (for example every 30 seconds) an updating signal about its presence into a special area, such updating signal comprising the result of the last determination performed by the mobile station about its presence into the special area.

[00123] In another particular embodiment the mobile station only sends to the mobile telephone network an updating signal about its presence into a special area when
it enters into or exit from such special area.

[00124] For a special area defined by the sum of the coverage of several distinctive defining signals:

If the mobile station processing of the defining signals received in a certain moment determines that at least one distinctive defining signal associated to this special area is received:

- If the previous processing of the defining signals received determined that no distinctive defining signal associated to this special area was received at that time then the mobile station interprets that it has recently entered into this special area.
- If the next processing of the defining signals received determines that at least one distinctive defining signal associated to this special area is still being

received then the mobile station interprets that it remains located into this special area;

- If the mobile station processing of the defining signals received in a certain moment determines that no distinctive defining signal associated to this special area is received:
- If the previous processing of the defining signals received determined that at least one distinctive defining signal associated to this special area was received at that time then the mobile station interprets that it has recently left this special area.
- If the next processing of the defining signals received determines that no distinctive defining signal associated to this special area is still being received then the mobile station interprets that it remains out of this special area.

[00125] For a special area defined by the intersection of the coverage of several distinctive defining signals a procedure equivalent to the one above can be easily inferred by analogy.

[00126] The updating signal may be sent through a diversity of channels provided by the mobile telephone network. For example, in a GSM mobile network, the updating signals can be sent using the USSD ('Unstructured Supplementary Service Data', GSM standards) channel. The data comprised into the updating signal will typically be coded by the mobile station and decoded by the special operating means of the server.

[00127] In this embodiment, the updating signals are sent from the mobile station to the special operating means of the mobile telephone network requesting an acknowledgement from the special operating means.

[00128] In step 530, the mobile station search for the acknowledgment from the special operating means.

[00129] If the acknowledgement is not received in the mobile station (possibility 532) because the updating signal does not reach the special operating means or the mobile station detects a failure in the transmission of the updating signal or there is a failure in the transmission of the acknowledgment, then the mobile station may send

the updating signal again up to a predetermined number of times according to a predefined retransmissions policy.

[00130] When the acknowledgment is received (possibility 531) into the mobile station, the mobile station knows in step 534 that the special operating means will make the appropriate adaptations in the operating parameters of the special areas database.

[00131] More generally, the special operating means area waiting for any updating signal from any mobile station whose identification code is into the parameters database. When the special operating means receive an updating signal from a mobile station, they then adapt the operational parameters of the special areas database that depend on the presence of this mobile station m a special area associated with this mobile station and send the acknowledgement.

[00132] In one embodiment, the updating signal contains a request to access to services and/or to download contents provided direct or indirectly by the mobile telephone network of the operator. Then, an access or downloading right is granted or denied by the mobile telephone network depending on the presence of the mobile station in a special area.

[00133] The acknowledgment signals of the updating signal from the special operating means are preferably coded. In that case, the mobile station processing means are able to decode the acknowledgments of the updating signals.

[00134] The operator of the mobile telephone network has therefore a guarantee that the mobile telephone network will know at least a change on the presence of the mobile station in one or more special areas even if the radio communication link between the mobile station and the mobile telephone network is temporarily unavailable.

[00135] In a particular embodiment the mobile telephone network may enable or disable to the mobile station to use predetermined services depending on the presence of the mobile station into a special area.

[00136] As an example, the mobile station may incorporate special checking software able to generate statistics about the use of the mobile telephone (phone calls, messages, etc.) into special areas. This software may be enabled for operation by the mobile telephone network when the mobile station enters into a predetermined special area and disabled when the mobile station exits such special area.

[00137] As another example, the mobile telephone network may broadcast certain messages associated to a special area (e.g. airport information). The mobile station can be enabled by the mobile telephone network to accept and display those broadcasted messages when it is located within this special area and disabled when it exits the special area.

[00138] The third part of this embodiment of a method according to the invention is illustrated in figures 6 and 7 and includes the adaptation of the operational parameters to the presence of the mobile station in any special area where this mobile station is monitoring its presence.

[00139] When the mobile telephone network receives an updating signal, the special operating means of the server adjust the value of at least one operating parameter of a parameters database linking the special area and the mobile station. The value of the operating parameter(s) depends on the information contained into the updating signal about the presence of the mobile station into the special area.

[00140] In a particular example, operating parameters related to a special tariff and some services are enabled or remains enabled into the referred parameters database when the information contained into the updating signal indicates that the mobile station has recently entered or remains located into the special area. In the same example, the special tariff and the services are disabled or remains disabled into the referred parameters database when the information contained into the updating signal indicates that the mobile station recently left or remains out of the special area.

[00141] More precisely, Figure 6 is a schematic illustration of an example of a part of the parameters database 600 of operating parameters included in the special operating means according to an embodiment of the invention. The illustrated part of the special operating means database 600 links two special areas SA1 606 and SA2

608 with 3 mobile stations identification codes MS(i-1), MS(i) and MS(I+1), each of which having an entry 603, 604 and 605.

[00142] The column 602 of the database comprises the mobile stations identification codes. A mobile station identification code refers to a code that is associated with the subscription of the mobile station user into the mobile telephone network. As an example, in a GSM network the referred mobile station identification code may be the MSISDN.

[00143] In this example, the set of checking data of mobile "station MS(i) for the special area SA1 606, defined in the column 610/606 of the entry 604 contains :

a checking data 650 comprised into the distinctive defining signal of a first base station BS1 (e.g. the identification code of BS1), such distinctive defining signal defines the special area SA1 606,

a checking data 652 comprised into the distinctive defining signal of a second base station BS2 (e.g. the identification code of BS1), such distinctive defining signal also defines the special area SA1 606, and a checking data 654 comprised into the distinctive defining signal of a wireless device WD1 (e.g. the identification data of WD1), such distinctive defining signal also defines the special area SA1 606,

for the special area SA1. The mobile station determines that it is located into the special area SA1 606 when it receives at least one of the three identifiers 650, 652, 654 comprised into the distinctive defining signals coming from BS1, BS2 and WD1, i.e. when it is located within the range of coverage of any of the three distinctive defining signals (according to one of the embodiments of the invention, in the case of the defining signal of WD1, in order to consider that such defining signal is a distinctive defining signal, it will additionally be necessary that the reliable information comprised into the defining signal confirms that WD1 is effectively located into a predetermined environment).

[00144] In this example, the value of column 611/606 for the mobile station MS(i) and for the special area 606 is enabled (`-i-') or disabled (`-') at a given time depending

on whether or not the mobile telephone network receives a confirmation of new checking data (see description of figure 4) from this mobile station confirming that all the checking data corresponding with the special area has been stored into this mobile station (based on the same principle, it would also be possible to add another column in the parameters database to monitor the reception of confirmations of deactivation of checking data and another one to monitor the reception of confirmations of modification of checking data for a given special area 32: see description of figure 4).

[00145] In this example, the value of columri 611/606 for MS(i) is enabled (+) for the special area SA1 606. In another example, the value of column 611/606 for themobile station MS (i) and for the special area 606 contains a set of values enabled (`+) or disabled ('-'), one for each checking data.

[00146] The column 612/606 corresponding to the operating parameter "Mobile Station Control Flag" is enabled ('+') or disabled (`-`) at a given time for the mobile station MS (i) and for the special area SA1 606 depending on the information comprised into the updating signals received about the presence of the mobile station into the special area 606. In this example, at a given time, the mobile station MS(i) is supposed to be in SA1 606 as the operating parameter "Mobile Station Control Flag" 612/606 is enabled (+1).

[00147] When the "Mobile Station Control Flag" is enabled (+) at a given time for the mobile station MS(i) and for the special area 606, certain tariffs or services related to such special area may be available for the user of the mobile station depending on the value (+) or (-) of the corresponding tariff or service flags for such mobilestation and special area into the operating parameters database. In this example, at a given time, in the column 'Tariff identifier' 614/606, the parameter is then set at 'XXX' and in the column 616/606, the 'Tariff Flag' is enabled (+). In the column 618/606, the 'Service identifier' parameter is then set at 'YYY' and in the column 620/606, the 'Service Flag' of said service 'YYY' is enabled ('+'). In the column 622/606, the 'Service identifier' parameter -is set at 2ZZ' and in the column 624/606, the 'Service Flag' of said service `ZZZ' is disabled ('-') because service ZZZ is disabled at that time for the mobile station MS(i) and the special area SA1 606.

[00148] The set of columns 610/608 to 624/608 provides the same kind of information for the special area SA2 608. The set of checking data of mobile station MS(i) (column 610/608) refers to wireless devices WD1 with the checking data 656, WD2 with the checking data 658 and WD3 with the checking data 660 for the special area SA2 608. In this special area, at that time, the value of column 611/608 for MS(i) is disabled (-), the operating parameter "Mobile Station Control Flag" (column 612/608) is disabled (`-`). Tariff 'PPP' (column 614/608) is enabled (`+' in column 616/608), service `QQQ' (column 6)8/608) is enabled ('+' in column 620/608) and service `RRR' (column 622/608) is enabled (`+' in column 624/608). The tariff PPP and the services QQQ and RRR are associated to mobile station MS(i) when it is in' the special area SA2 608.

[00149] In another embodiment of the invention, the special operating means are distributed into different servers of the mobile telephone network or of service providers associated with the mobile telephone network and an updating signal may be sent to any of those servers.

[00150] In a particular example of this embodiment, there will be a server containing a part of the special operating means that stores a pargmeters database (e.g. the database illustrated in figure 6) of operating parameters containing the special areas checking data. In this example part of the updating signals from the mobile stations may be sent to this server of the mobile telephone network and processed by the part of the special operating means that this server contains.

[00151] In this example there will be at least another server, called switch server, into the mobile telephone network or associated to it, server that is including another part of the special operating means that include another parameters database of operating parameters, called switch parameters database, that does not contain checking data. The part of special operating means included in this other server allows or forbids the provision of some multimedia contents and applications available to mobile stations (and may preferably provide them itself) depending on the presence, in any special area registered in this switch parameters database, of any mobile station associated with this special area in this switch parameters database.

[00152] Figure 7 illustrates an example of part of a switch parameters database 700 where 702, 703, 704, 705, 706, 708, 712/706 and 712/708 have the same meaning than respectively 602, 603, 604, 605, 606, 608, 612/606 and 612/608 of Figure 6. The contents and applications 'AAA' are available to the mobile station MS(i) when it is into the special area SA1 706. The contents and applications 'BBB' are available to the mobile station MS(i) when it is into the special area SA2 708.

[00153] In the example of figure 7, the part of the special operating means included into the switch server receives, embedded into an updating signal from MS(i), a request to download a content or an application 'AAA', and the downloading right is granted because such updating signal from MS(i) also indicates (value '+' in column 712/706) that it is located in the special area 706 at that time.

[00154] In the same manner, in the example of figure 7, the-part of the special operating means included into the switch server receives, embedded into an updating signal from MS(i), a request to download a content or an application 'BBB', but the downloading right is not granted because such updating signal from MS(i) also indicates (value in column 712/708) that it is not located in the special area 708 at that time.

[00155] In some cases the switch server is entirely property of the mobile telephone network operator while in some others there is an agreement in place with a third party.

[00156] Although the present invention has been described in detail for purpose of illustration, it is understood that such detail is solely for that purpose, and variations can be made therein by those skilled in the art without departing from the scope of the invention. Thus, while the preferred embodiments of the method and of the mobile system have been described in reference to the environment in which they were developed, they are merely illustrative of the principles of the invention. Other embodiments and configurations may be devised without departing from the scope of the appended claims.

[00157] Further, although the embodiments of the invention describe with reference to the drawings comprise computer apparatus and proceqses performed in computer

apparatus, the invention also extends to computer programs, particularly computer programs on or in a carrier, adapted for putting the invention into practice. The program may be in the form of source code, object code, a code intermediate source and object code such as in partially compiled form, or in any other form suitable for use in the implementation of the processes according to the invention. The carrier may be any entity or device capable of carrying the program. For example, the carrier may comprise storage medium, such as a ROM, for example a CD ROM or a semiconductor ROM, or a magnetic recording medium, for example a floppy disc or hard disk. Further, the carrier may be a transmissible carrier such as an electrical or optical signal which may be conveyed via electrical or optical cable or by radio or other means. When the program is embodied in a signal which may be conveyed directly by a cable or other device or means, the carrier may be constituted by such cable or other device or means. Alternatively, the carrier may be an integrated circuit in which the program is embedded, the integrated circuit being adapted for performing, or for use in the performance of, the relevant processes.

CLAIMS

1. A method for monitoring the presence of a mobile station in at least one special area associated to the mobile station, the method comprising the following steps:

(a) at least one radio communication defining device transmits repeatedly in at least a channel one radio distinctive defining signal that defines the special area by its coverage,

(b) the mobile station observes the channel and process any signal received in order to determine whether or not it is receiving any defining signal,

(c) the mobile station processes any defining signal received in order to determine whether or not the defining signal received is a distinctive defining signal that defines the special area,

(d) the mobile station sends an updating signal to a mobile telephone network about its presence in the special area,

(e) the mobile telephone network routes the updating signal to special operating means that adapt the value of at least one operating parameter depending on the presence of the mobile station in the special area, the said method is characterized in that the special area is associated to the mobile station by transmitting to the mobile station a checking data, this checking data being used by the mobile station for determining whether or not the defining signal received is a distinctive defining signal that defines, alone or with other distinctive defining signals, the special area associated to the mobile station and the same checking data being sent to any mobile station whose presence in this special area is monitored.

2. A method according to claim 1, characterized in that the special area is deactivated for the mobile station by the mobile telephone network sending a deactivation signal to the mobile station to stop the mobile station from recognizing a defining signal that defines that special area as a distinctive one.

3. A method according to claim 1, characterized in that the special operating means acknowledge the reception of the updating signal and transmit an acknowledgement signal to the mobile station.

4. A method according to claim 1, characterized in that at least one radio communication defining device is a wireless device whose radio distinctive defining signal that defines the special area is a distinctive wireless signal transmitted by the wireless device in a frequency range outside the frequency range allocated for the mobile telephone network, the said distinctive wireless signal contains wireless device identification data and reliable information confirming that the wireless device is effectively located into a predetermined environment, the checking data- associated to this wireless device includes this wireless device identification data.

5. A method according to claim 1, characterized in that at least one radio communication defining device is a base station whose radio distinctive defining signal that defines the special area is a distinctive signal comprising a special mobile telephone network identification code, the checking data associated to this base station includes this special mobile telephone network identification code.

6. A method according to claim 1, characterized in that at least one radio communication defining device is a base station whose radio distinctive defining signal that defines the special area is a distinctive base station identity signal comprising an identification code of the base station, the checking data associated to this base station includes this base station identification code.

7. A method according to claim 1, characterized in that the special operating means store a parameters database linking the special area to the mobile station and to a set of at least the operating parameter; and the special operating means adapt the value of at least an operational parameter of this set when they receive an updating signal signaling that the mobile station exits or enters the special area.

8. A method according to claim 1, characterized in that the operating parameter is a tariff flag or a service flag that enables or disables a special tariff (`XXX','PPP') or a service ('YYY','ZZZ','QQQ','RRR') for the mobile station.

9. A method according to claim 1, characterized in that the updating signal includes a request to access to a service ('AAA','BBB') or to a multimedia content ('AAA','BBB') and the mobile telephone network routes this request to a part of the special operating means that allow or forbid the provision of this service or multimedia content depending on. whether or not the mobile station is into the special area.

10. A method according to claim 1, characterized in that the transmission of the checking data to the mobile station is done via the mobile telephone network or via a signal of a at least one radio device or via a person introducing the checking data in the mobile station.

11. A mobile system for monitoring the presence of a mobile station in a special area defined for this mobile station, said system comprising:

checking means for detecting the presence of the mobile station in the special area associated to this mobile station, said checking means including:

at least one radio communication defining device transmitting repeatedly in at least a channel a radio distinctive defining signal that defines the special area,

in the mobile station, observing means for observing the channel and processing means for processing any signal received in the channel in order to determine whether or not the signal received is a defining signal and, if the signal received a defining signal, whether or not the signal,

received is a distinctive defining signal that defines the special area,

transmission means for sending an updating signal regarding the presence of the mobile station in the special area from the processing means to special operating means included at least partly in data processing means of the mobile telephone 5 network,

the special operating means for adapting the value of at least one operating parameter depending on the presence of the mobile station in the special area,

characterized in that the said mobile system comprises storing means for storing a checking data in the mobile station, the processing means include means for using this checking data for determining whether or not the defining signal received is a distinctive defining signal that defines, alone or with other distinctive defining signals, the special area and the same checking data is sent to any mobile station whose presence in this special area is monitored.

12. A mobile system according to claim 11, characterized in that the mobile system comprises special area location monitoring means for monitoring the correct location of at least a part of the special area.

ABSTRACT

Method for monitoring the presence of a mobile station in at least one special area, wherein a radio communication defining device transmits one radio distinctive defining signal that define the special area by its coverage, the mobile station processes a signal received in order to determine whether or not it is defining signal and more precisly a distinctive one that defines the special area, the mobile station sends an updating signal to a mobile telephone network, the network routes the updating signal to special operating means that adapt the value of an operating parameter. According to the invention, the special area is associated to the mobile station by transmitting to the mobile station a checking data used by the mobile station for determining whether or not the defining signal received is distinctive defining signal.

Ex.1002 / Page 321 of 343
APPLE INC.

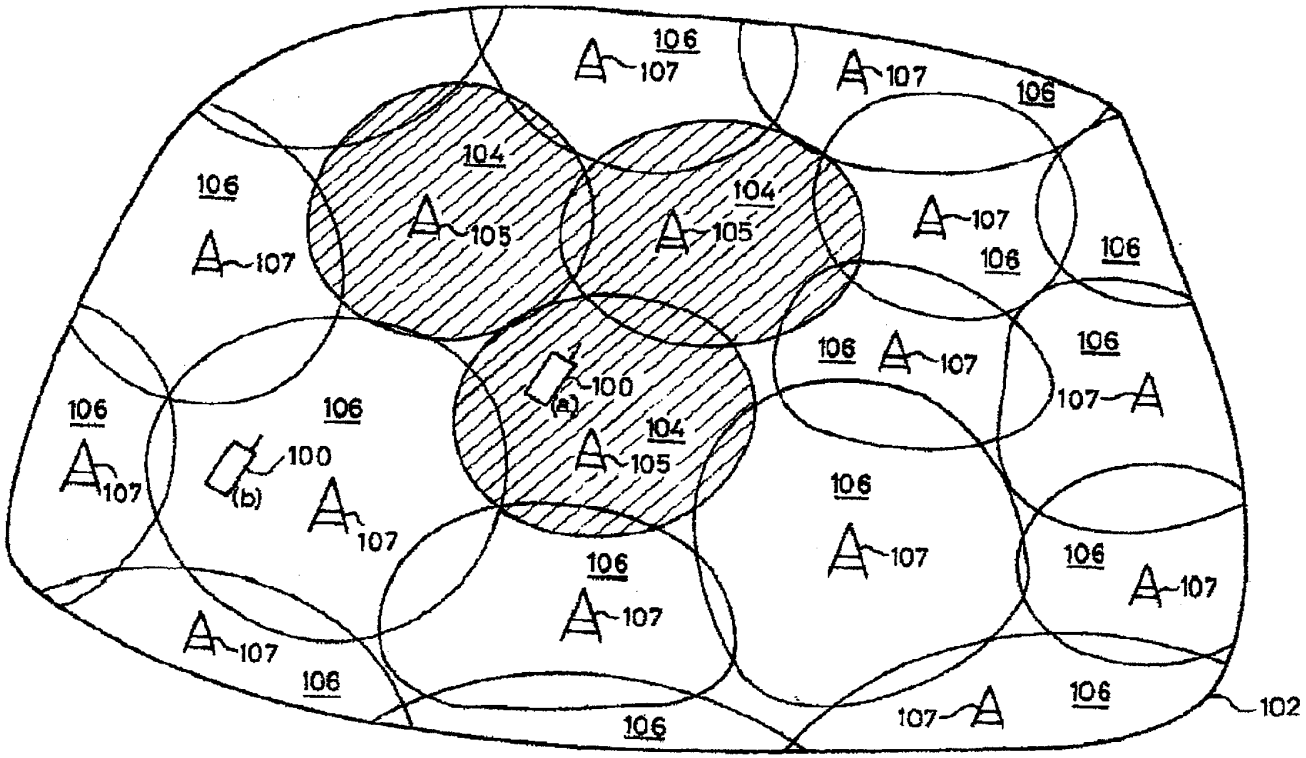
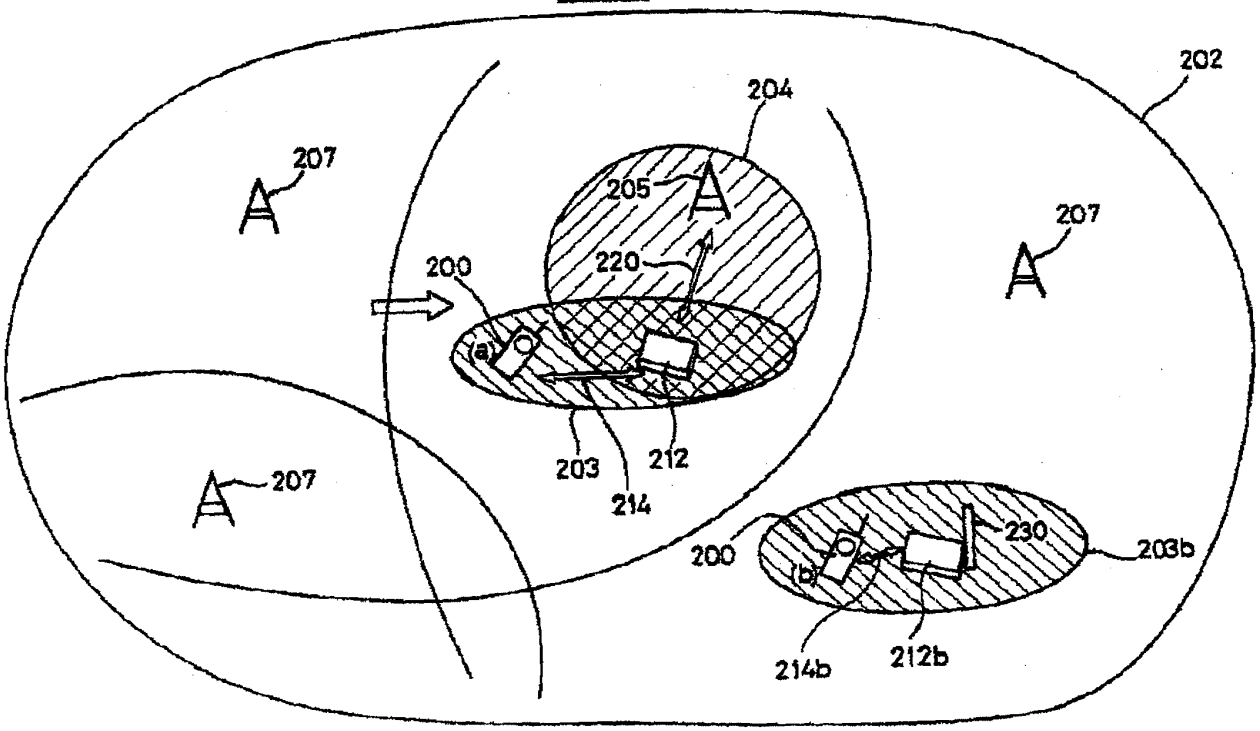


FIG_1

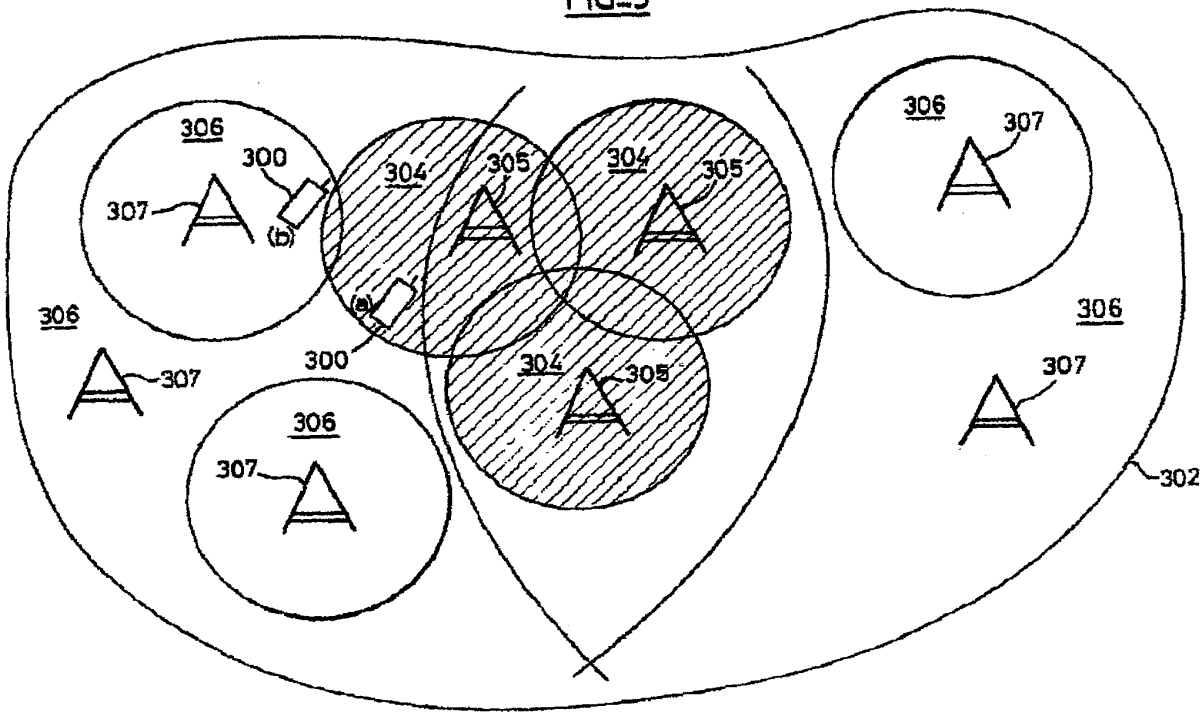
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APPLE INC.

FIG_2



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APPLE INC.

FIG_3



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APPLE INC.

FIG_4

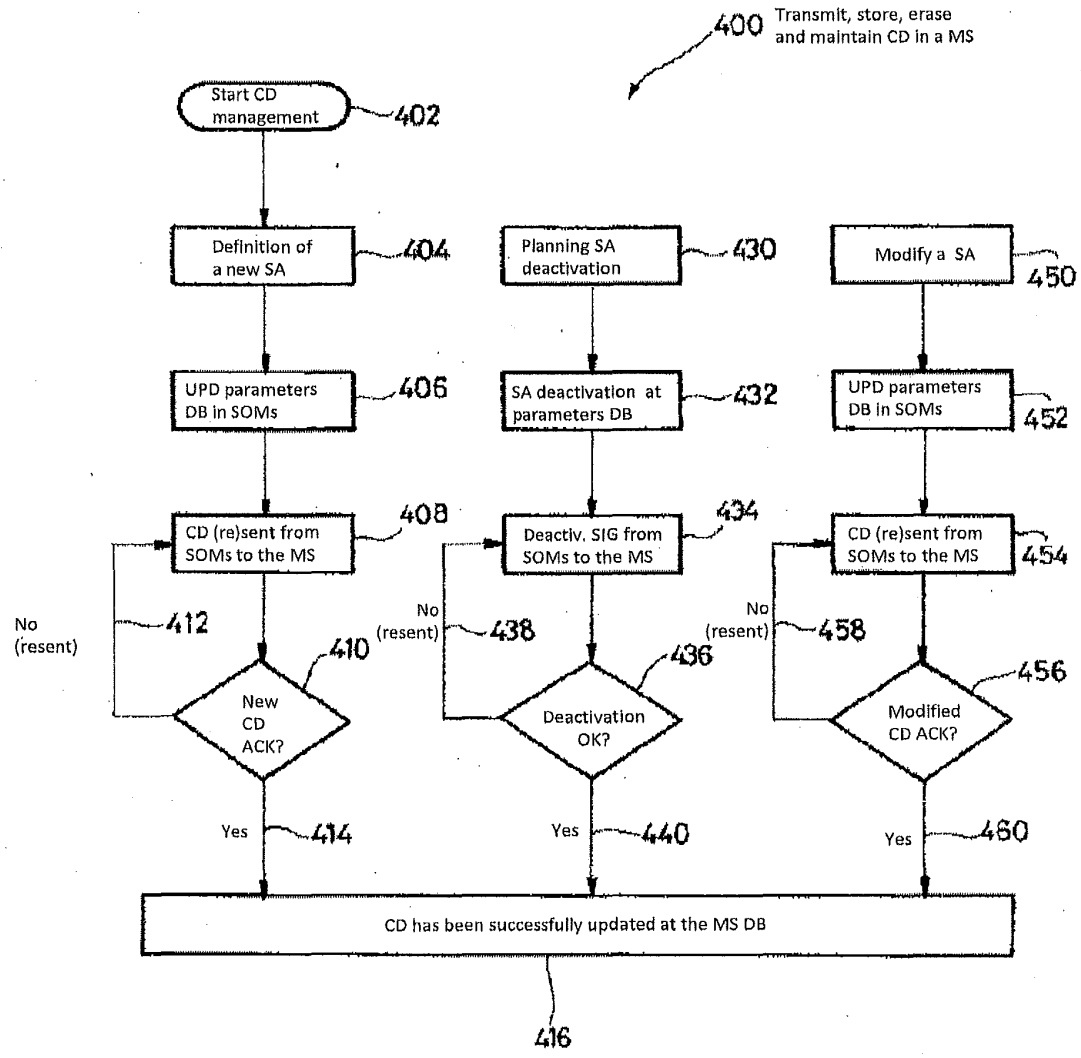

400
Transmit, store, erase and maintain CD in a MS
Start CD management
402
Definition of a new SA
404
UPD parameters DB in SOMs
406
CD (re)sent from SOMs to the MS
408
No (resent)
412
New CD ACK?
410
Yes
414
Planning SA deactivation
430
SA deactivation at parameters DB
432
Deactiv. SIG from SOMs to the MS
434
No (resent)
438
Deactivation OK?
436
Yes
440
Modify a SA
450
UPD parameters DB in SOMs
452
CD (re)sent from SOMs to the MS
454
No (resent)
458
Modified CD ACK?
456
Yes
460
CD has been successfully updated at the MS DB
416

FIG_5

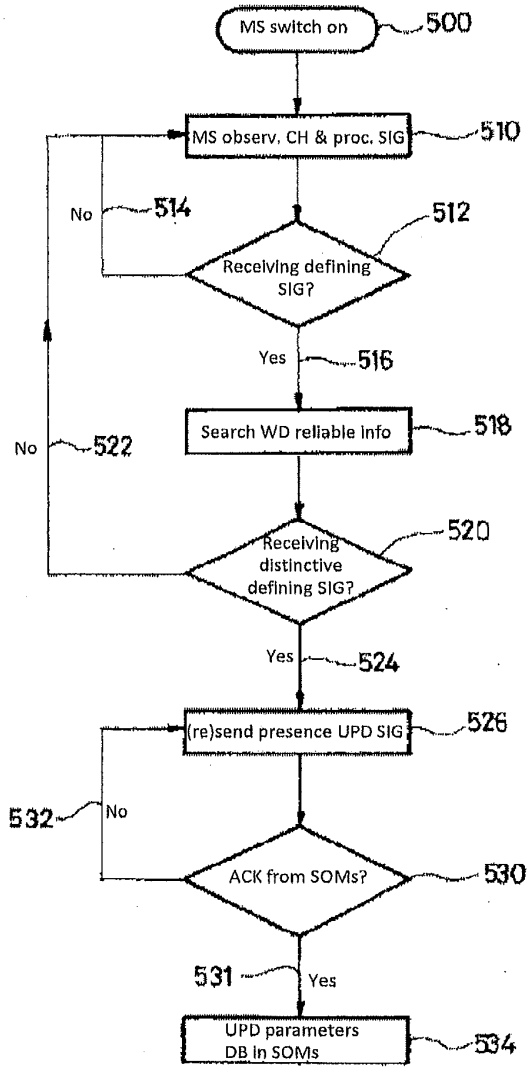

MS switch on
500
MS observ. CH & proc. SIG
510
No
514
512
Receiving defining SIG?
Yes
516
Search WD reliable info
518
No
522
Receiving distinctive defining SIG?
520
Yes
524
(re)send presence UPD SIG
526
532
No
ACK from SOMs?
530
531
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UPD parameters DB in SOMs
534

FIG_6

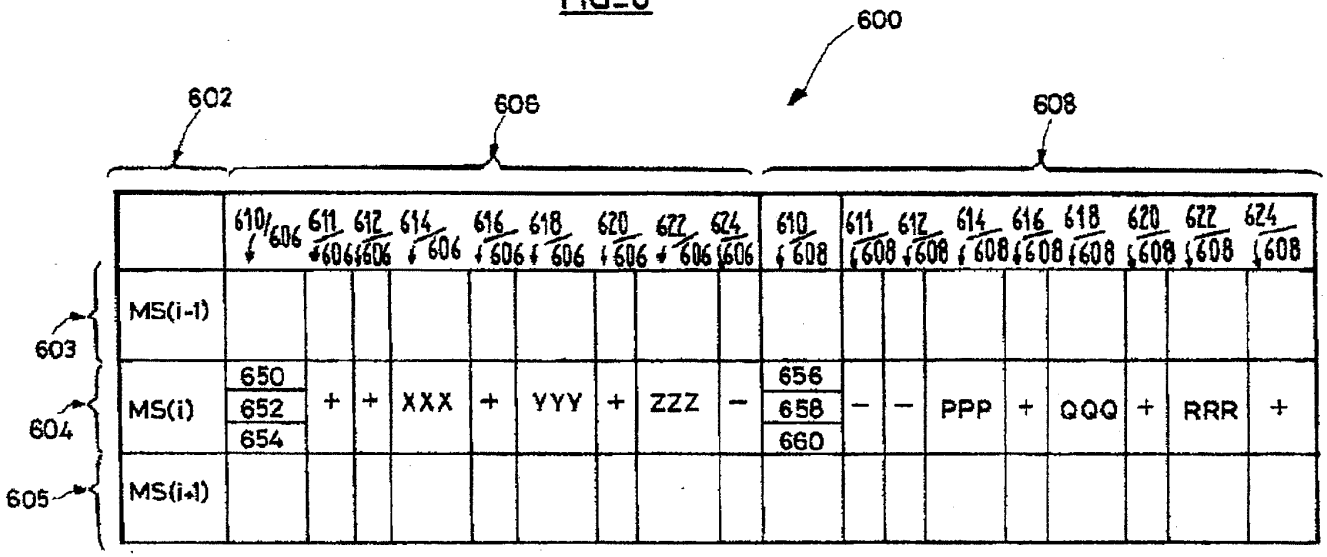
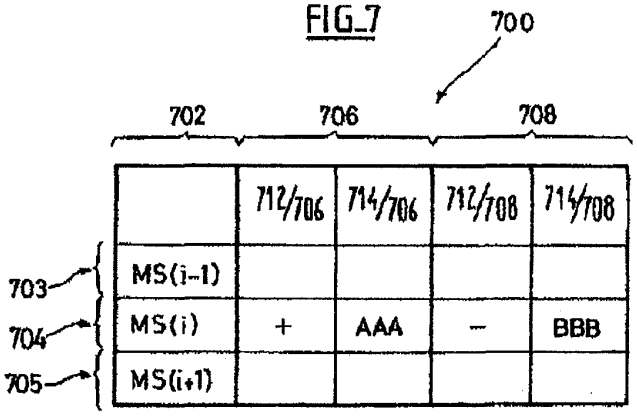

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XXX
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YYY
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ZZZ
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PPP
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QQQ
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RRR
+
605
MS(i+1)

FIG_7


700
702
706
708
712/706
714/706
712/708
714/708
703
MS(i-1)
704
MS(i)
+
AAA
–
BBB
705
MS(i+1)

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	122358-363771
	Application Number	
Title of Invention	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
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Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

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City	Madrid	**State/Province**	
Postal Code	28029	**Country** [i]	ES

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

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For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	26694		
Email Address	jakaminski@venable.com	Add Email	Remove Email

Application Information:

Title of the Invention	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA		
Attorney Docket Number	122358-363771	**Small Entity Status Claimed**	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	7	**Suggested Figure for Publication (if any)**	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	122358-363771
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Title of Invention	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	

Filing By Reference :

Only compete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	26694		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the application number blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	12294641	2010-04-12

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Foreign Priority Information:

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	122358-363771
	Application Number	
Title of Invention	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)
PCT/EP2007/052939	WO	2007-03-27	

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)
06111804.8	EP	2006-03-28	

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Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	122358-363771
	Application Number	
Title of Invention	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	

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In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date o f filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :	
If the Applicant is an Organization check here. ☒	
Organization Name	AFIRMA CONSULTING & TECHNOLOGIES, S.L.

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Address 2			
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Country	ES	Postal Code	28029
Phone Number		Fax Number	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	122358-363771
	Application Number	
Title of Invention	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	

Email Address	

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Assignee Information including Non-Applicant Assignee Information:

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If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

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Address 2			
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Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Signature	/Jeffri A. Kaminski/			Date (YYYY-MM-DD)	2014-04-11
First Name	Jeffri	Last Name	Kaminski	Registration Number	42709

Additional Signature may be generated within this form by selecting the Add button.

PTO/AIA/14 (03-13)
Approved for use through 01/31/2014. OMB 0651-0032
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	122358-363771
	Application Number	
Title of Invention	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Carlos A. Perez Lafuente	Art Unit: Not Yet Assigned
Application No: Not Yet Assigned	Examiner: Not Yet Assigned
Confirmation No: Not Yet Assigned	
Filed: April 11, 2014	Atty. Docket No: 122358-363771
For: METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA	Customer No: 26694 PATENT & TRADEMARK OFFICE

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

Pursuant to 37 C.F.R. § 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement accompanies the new patent application submitted herewith.

All of the references listed on the PTO/SB/08 are of record in parent Application No. 12/294,641, where copies may be obtained in accordance with customary PTO practice. Accordingly, copies of the references are not provided. Applicants request that these documents be considered and listed on the face of any patent granted in this application.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. § 1.56(a) exists. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 22-0261, under Order No. 122358-363771.

Dated: April 11, 2014

Respectfully submitted,

By:/Jeffri A. Kaminski/
Jeffri A. Kaminski
Registration No.: 42,709
VENABLE LLP
P.O. Box 34385
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Attorney/Agent For Applicant

PTO/SB/08b (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	Not Yet Assigned
Filing Date	April 11, 2014
First Named Inventor	Carlos A. Perez Lafuente
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	122358-363771

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA*	US-2002/0094801	07-18-2002	Atorf	
	AB*	US-6,516,190	02-04-2003	Linkola	
	AC*	US-6,516,193	02-04-2003	Salmela et al.	
	AD*	US-6,826,414	11-30-2004	Reynolds et al.	
	AE*	US-6,920,317	07-19-2005	Muhonen	
	AF*	US-6,671,506	12-30-2003	Lee	
	AG*	US-6,785,536	08-31-2004	Lee et al.	
	AH*	US-6,334,052	12-25-2001	Nordstrand	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Filer:	Jeffri Kaminski/l hayes
Attorney Docket Number:	

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	70	70
Utility Search Fee	2111	1	300	300
Utility Examination Fee	2311	1	360	360
Pages:				
Claims:				
Miscellaneous-Filing:				
Late Filing Fee for Oath or Declaration	2051	1	70	70
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**800**

Electronic Acknowledgement Receipt	
EFS ID:	18737232
Application Number:	14250517
International Application Number:	
Confirmation Number:	1071
Title of Invention:	METHOD AND SYSTEM FOR MONITORING A MOBILE STATION PRESENCE IN A SPECIAL AREA
First Named Inventor/Applicant Name:	CARLOS A. PEREZ LAFUENTE
Customer Number:	26694
Filer:	Jeffri Kaminski/l hayes
Filer Authorized By:	Jeffri Kaminski
Attorney Docket Number:	
Receipt Date:	11-APR-2014
Filing Date:	
Time Stamp:	11:36:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$800
RAM confirmation Number	8803
Deposit Account	220261
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees) Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	**Document Description**	**File Name**	**File Size(Bytes)/ Message Digest**	**Multi Part /.zip**	**Pages (if appl.)**
1	Transmittal of New Application	TRANSMITTAL.pdf	141913 b82e2989bae087fee813d0706d02ef9f6f357764	no	1
Warnings:					
Information:					
2		APPLICATION.pdf	203600 39933a43026aa431f250e4480a8233363172d312	yes	39
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Specification		1	34	
	Claims		35	38	
	Abstract		39	39	
Warnings:					
Information:					
3	Drawings-only black and white line drawings	DRWGS363771.pdf	147024 5e220cf78e05aae1ad89517ed667518bcea6bfb5	no	7
Warnings:					
Information:					
4	Application Data Sheet	ADS.pdf	2609367 4c5ecfd56d378d2138c0cd4f32058528d6ee8280	no	7
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
5	Transmittal Letter	IDSTRANSMITTAL.pdf	84740 bab149bf6be75096039a0f4128f063396201af6c	no	2
Warnings:					
Information:					
6	Non Patent Literature	SB08.pdf	125597 53cdb94a3e94db552e46fbef493c6b27a5907683	no	1
Warnings:					
Information:					

7	Fee Worksheet (SB06)	fee-info.pdf	36457 d4d25b2ebdbd2a18b0768788f53cf461234758fa	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	3348698	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.