PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT8300525

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
BLUE UMBRELLA LLC	11/29/2023

RECEIVING PARTY DATA

Name:	GAMBA GROUP HOLDINGS LLC
Street Address:	8273 NW 127 LN
City:	PARKLAND
State/Country:	FLORIDA
Postal Code:	33076

PROPERTY NUMBERS Total: 19

Property Type	Number
Patent Number:	7899583
Patent Number:	8836580
Patent Number:	8896485
Patent Number:	7924149
Patent Number:	8866673
Patent Number:	9020687
Patent Number:	8941485
Patent Number:	9374673
Patent Number:	9204257
Patent Number:	9491584
Patent Number:	9602193
Patent Number:	9204251
Patent Number:	9420423
Patent Number:	9538332
Patent Number:	9674684
Patent Number:	9772193
Patent Number:	9961507
Patent Number:	10470013
Patent Number:	10117078

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 9542574319

Email: umendelson@gmail.com

Correspondent Name: EHUD MENDELSON

Address Line 1: 8273 NW 127 LN

Address Line 4: PARKLAND, FLORIDA 33076

ATTORNEY DOCKET NUMBER:	BLU2GAMBA PATENTS1-19
NAME OF SUBMITTER:	EHUD MENDELSON
SIGNATURE:	/EHUD MENDELSON/
DATE SIGNED:	11/29/2023
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 4

source=Patent assignment blue to gamba#page1.tif

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source=Patent assignment blue to gamba#page3.tif

source=Patent assignment blue to gamba#page4.tif

PATENTS ASSIGNMENT AGREEMENT

THIS AGREEMENT is made this day of November 27, 2023, by and between Blue Umbrella llc represent by Ehud Mendelson (the "Assignor"), having its primary place of business at 8273 NW 127 Ln. Parkland Florida 33076 , and Gamba Group Holdings(the "Assignee") having its primary place of business at 8273 NW 127 Ln. Parkland, Florida 33076 (collectively the "Parties").

WHEREAS, Licensor is has invented RF Beacon and Method of use (the "Invention"), and has been granted United States Letters Patents for said invention, Patent No- .See Attach A (the "Patent"), granted on the patent application filed with the United States Patent and Trademark Office.

WHEREAS, Assignee wishes to acquire all right, title and interest in the Patent, and Assignor wishes to sell its interest in the Patent to Assignee.

NOW THEREFORE, in consideration of the mutual promises, covenants, warranties, and other good and valuable consideration set forth herein, and in accordance with applicable law, the Parties hereby agree as follows:

1. *Assignment*. Assignor hereby assigns to Assignee, and its successors, representatives and assigns, all right, title and interest in the Patent including all reexaminations, extensions and reissues thereof. Assignor hereby requests the Commissioner of Patents of the United States to record this assignment of all right, title and interest in the Patent to Assignee.

2. *Payment*. In consideration of the assignment of the Patent pursuant to this Agreement, and of the promises and covenants contained herein, Assignee shall pay to Assignor a fee in the amount Set in Attachment A of this agreement, payable upon execution of sale or licenses of a patent or patents from the list attach A to this Agreement, until such execution will take place it is agree that the Assignor Ehud Mendelson payment/fee will be conceders as a loan to the Gamba Group Holdings llc in the dynamic amount set in the attachment A. Until such execution of sale or license will take place, Ehud Mendelson will receive a personal loan to his business account in the USA (Dba. Blue Umbrella and or search4parking bank account), payment for the loan will payable upon execution of sale or licenses of a patent or patents from the list attach A to this Agreement.

Google Ex. 1021, p. 003

3. *Assignor's Representations and Warranties*. Assignor hereby represents and warrants
i) that it has the legal right and authority to execute this Agreement, and to validly assign the entire interest in the Patent to Assignee,

ii) that it has not executed any other agreement that would conflict with the terms of this Agreement, nor shall it execute any such agreement in the future, and

iii) that to the best of Assignor's knowledge, the Patent is valid and enforceable as of the date of this Agreement. Assignor makes no representations or warranties as to the validity or enforceability of the Patent subsequent to the date of this Agreement.

4. *Patent Status*. Assignee hereby acknowledges that any finding or ruling subsequent to the date of this Agreement that the Patent is invalid or unenforceable shall not give rise to a cause of action against Assignor under this Agreement.

5. *Further Actions*. Assignor hereby agrees to execute any further agreements and to take any further actions necessary to aid Assignee in perfecting its interest in the Patent and in enforcing any and all protections or privileges deriving from the Patent.

6. *Counterparts*. This Agreement may be executed in several counterparts, each of which shall constitute an original and all of which, when taken together, shall constitute one agreement.

7. *Severability*. If any part or parts of this Agreement shall be held unenforceable for any reason, the remainder of this Agreement shall continue in full force and effect. If any provision of this Agreement is deemed invalid or unenforceable by any court of competent jurisdiction, and if limiting such provision would make the provision valid, then such provision shall be deemed to be construed as so limited.
8. *Notice*. Any notice required or otherwise given pursuant to this Agreement shall be in writing and mailed certified return receipt requested, postage prepaid, or delivered by overnight delivery service, addressed as follows:

Google Ex. 1021, p. 004

If to Assignor: Blue Umbrella LLC by her president Ehud Mendelson 8273 NW 127 Ln. Parkland, Florida 33076

If to Assignee: Gamba Group Holdings LLC having its primary place of business at 8273 NW 127 Ln. Parkland, Florida 33076

9 *Headings*. The headings for section herein are for convenience only and shall not affect the meaning of the provisions of this Agreement.

10. Entire Agreement. This Agreement constitutes the entire agreement between Assignor and Assignee, and supersedes any prior understanding or representation of any kind preceding the date of this Agreement. There are no other promises, conditions, understandings or other agreements, whether oral or written, relating to the subject matter of this Agreement.

Attach A List of patents assignment:

Patents #:	Application #:
7899583	US11/396,843
8836580	US11/429,864
8896485	US11/472,706
7924149	US12/069,899
8866673	US12/587,042
9020687	US12/930,735
8941485	US12/932,811
9374673	US13/135,421
9204257	US13/135,421
9491584	US14/285,332
9602193	US14/285,273
9204251	US14/285,209
9420423	US15/086,028
9538332	US15/237,727
9674684	US15/397,685
9772193	US15/403,146
9961507	US15/687,445
10470013	US15/953,389
10117078	US15/972,074

Google Ex. 1021, p. 005

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed the day and year first above written.

ASSIGNOR
Ehud Mendelson
BLVD UMBRELLA LLC. MENDELSON
Signature
EHUD MENDELSON
Print Name

ASSIGNEE
Gamba Group Holdings President
MENDELSON
Signature
EHUD MENDELSON
Print Name

State of FLORIDA)
)
County of BROWARD)

I, the undersigned, a Notary Public in and for said County, in the State aforesaid, DO HEREBY CERTIFY THAT EHUD MENDELSON personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person, and acknowledged that EHUD MENDELS signed, sealed and delivered the said instrument as his/her/their free and voluntary act, for the uses and purposes therein set forth.

Given under my hand and notarial seal, this 27th day of November, 2023

Signature of Notary Public

SELVIRA FLEURY
Notary Public, State of Florida
Commission# GG 958650
My comm. expires Feb. 16, 2024

(Seal) SELVIRA FLEURY
Printed Name of Notary

My commission expires on February 16, 2024

Google Ex. 1021, p. 006

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT5756053

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
GAMBA GROUP LIMITED	10/06/2019

RECEIVING PARTY DATA

Name:	BLUE UMBRELLA LLC
Street Address:	11190 HERON BAY BLVD SUITE 916
City:	CORAL SPRINGS
State/Country:	FLORIDA
Postal Code:	33076

PROPERTY NUMBERS Total: 16

Property Type	Number
Patent Number:	7899583
Patent Number:	7924149
Patent Number:	8836580
Patent Number:	8866673
Patent Number:	8896485
Patent Number:	8941485
Patent Number:	9020687
Patent Number:	9204251
Patent Number:	9204257
Patent Number:	9374673
Patent Number:	9420423
Patent Number:	9491584
Patent Number:	9538332
Patent Number:	9602193
Patent Number:	9674684
Patent Number:	9772193

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone:	9542574319
Email:	umen79@yahoo.com
Correspondent Name:	EHUD MENDELSON
Address Line 1:	11190 HERON BAY BLVD SUITE 916
Address Line 4:	CORAL SPRINGS, DELAWARE 33076

ATTORNEY DOCKET NUMBER:	ASSIGNMENT GAMBA TO BLU8X
NAME OF SUBMITTER:	EHUD MENDELSON
SIGNATURE:	/ehud mendelson/
DATE SIGNED:	10/06/2019
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 3
source=ASSIGNMENT of patents from gamba group to blue umbrella sign and ready#page1.tif
source=ASSIGNMENT of patents from gamba group to blue umbrella sign and ready#page2.tif
source=ASSIGNMENT of patents from gamba group to blue umbrella sign and ready#page3.tif

ASSIGNMENT

WHEREAS, I:

Ehud Mendelson President of **Gamba Group Limited**, a For Profit Corporation organized and existing under the laws of the state of Malta, and having an office and place of business at 262 Triq San Alber, Gzira, Malta, GZR 1152, represent by Ehud Mendelson president of the company which residing, respectively, at: **11190 Heron Bay Blvd. Suite 916, Coral Springs, FL, 33076**,

Which own the patents listed as follow:

Patent#	Application #
7899583	11396843
7924149	12069899
8836580	11429864
8866673	12587042
8896485	11472706
8941485	12932811
9020687	12930735
9204251	14285209
9204257	14285273
9374673	13135421
9420423	15086028
9491584	14285332
9538332	15237727
9602193	14285406
9674684	15397685
9772193	15403146

Google Ex. 1021, p. 009

WHEREAS, **Blue Umbrella Limited Liability company** , a For Profit Corporation organized and existing under the laws of the state of **Nevada** and having an office and place of business at **11190 Heron Bay Blvd. Suite 916, Coral Springs, FL, 33076**,

, is desirous of acquiring the entire interest in said Patents, said United States patents which listed above (page 1) and Currently owns by Gamba Group Limited, and in any patents which may issue thereon

NOW, THEREFORE,

be it known that for and in consideration of **Blue Umbrella Limited Liability company**, and other good and valuable consideration, I do hereby sell, assign, and transfer unto **Blue Umbrella Limited Liability company**, its successors, assigns, and legal representatives, all right, title, and interest in and to said patents listed in page 1 and any improvements thereon for all countries of the world, and in and to said application, including any continuations and divisions thereof, and any substitute applications therefor, and any patents which may issue thereon, and any reissues of the same; and all right, title, and interest in and to every patents application filed on said patents listed in page 1 in any other country, including renewals, revivals, continuations, and divisions thereof, and any substitute applications therefor, and any and all patents which may issue thereon, and any reissues and extensions of the same; and we hereby authorize and request competent authorities to grant and issue any and all patents on said listed in page 1 to **Blue Umbrella Limited Liability company** as the assignee of the entire interest therein; and we further agree to execute upon request of the assignee such additional documents, if any, as are necessary and proper to secure patents protection on said patents throughout all countries of the world, and otherwise to give full effect to and perfect the rights of the assignee under this Assignment.

Google Ex. 1021, p. 010

In Testimony Whereof, I have hereunto signed my name on
The dates indicated hereinafter:

09/20/19
Date

Ehud Mendelson

State of Florida
Country of Broward

Before me a Notary Public for said county, personally appeared Ehud Mendelson, to me know and known to me to be the person who executed the foregoing instrument and acknowledged it to be a free act and deed.

Witness my hand and seal September 20th, 2019.

Notary Public

[Notary Seal]

My Commission expires:
Dec 8, 2019

Google Ex. 1021, p. 011

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT2861583

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
EHUD MENDELSON	04/10/2014

RECEIVING PARTY DATA

Name:	GAMBA GROUP LIMITED
Street Address:	260 TRIQ SAN ALBERT
City:	GZIRA
State/Country:	MALTA
Postal Code:	GZR 1150

PROPERTY NUMBERS Total: 1

Property Type	Number
Patent Number:	7899583

CORRESPONDENCE DATA

Fax Number: (561)883-0115

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 561-716-3915
Email: Patents@AllenHertz.com
Correspondent Name: ALLEN D. HERTZ, P.A.
Address Line 1: 12784 TULIPWOOD CIRCLE
Address Line 4: BOCA RATON, FLORIDA 33428

ATTORNEY DOCKET NUMBER:	MEN-06-003
NAME OF SUBMITTER:	ALLEN D. HERTZ
SIGNATURE:	/allen d hertz/
DATE SIGNED:	05/19/2014
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 3
source=MEN-06-003_Mendelson_Parking_Assignment_Patent-Executed#page1.tif
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ASSIGNMENT

WHEREAS, I:

(4) **Ehud Mendelson**,

residing, respectively, at:

(4) **11190 Heron Bay Blvd. Suite 916, Coral Springs, FL, 33076**,

have made an invention entitled: **SYSTEM AND METHOD OF DETECTING AND NAVIGATING TO EMPTY PARKING SPACES**

and [ ] are about to make application for United States Letters Patent therefor, the same being executed by us on _____, 2013; and

[X] have made application for United States Letters Patent thereof, filed **April 03, 2006**, under **Serial No. 11/396,843**, which Issued as **US Patent 7,899,583** on **March 01, 2011**; and

WHEREAS, **Gamba Group Limited**, an For Profit Corporation organized and existing under the laws of the state of **Malta** and having an office and place of business at **265 Triq San Alber, Gzira, Malta, GZR 1155**, is desirous of acquiring the entire interest in said invention, said United States patent application, and in any Letters Patent which may issue thereon;

NOW, THEREFORE, be it known that for and in consideration of my employment **Gamba Group Limited**, and other good and valuable consideration, I do hereby sell, assign, and transfer unto **Gamba Group Limited**, its successors, assigns, and legal representatives, all right, title, and interest in and to said invention and any improvements thereon for all countries of the world, and in and to said application, including any continuations and divisions thereof, and any substitute applications therefor, and any patent which may issue thereon, and any reissues of the same; and all right, title, and interest in and to every patent application filed on said invention in any other country, including renewals, revivals, continuations, and divisions thereof, and any substitute applications therefor, and any and all patents which may issue thereon, and any reissues and extensions of the same; and we hereby authorize and request competent authorities to grant and issue any and all patents on said invention to **Gamba Group Limited** as the assignee of the entire interest therein; and we further agree to execute upon request of the assignee such additional documents, if any, as are necessary and proper to secure patent protection on said invention throughout all countries of the world, and otherwise to give full effect to and perfect the rights of the assignee under this Assignment.

IN TESTIMONY WHEREOF, I have hereunto signed my name on the dates indicated hereinafter:

04/10/14
Date

Ehud Mendelson

STATE OF Florida)
) ss.:
COUNTY OF Broward)

Before me a Notary Public for Said County, personally appeared Ehud Mendelson, to me known and known to me to be the person who executed the foregoing instrument and acknowledged it to be a free act and deed.

Witness my hand and seal April 10th, 2014.

Notary Public

[Notary Seal]

My Commission expires:

Dec. 18, 2015

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	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/396,843	04/03/2006	Ehud Mendelson	MEN-06-003

CONFIRMATION NO. 3897

POA ACCEPTANCE LETTER

31877
ALLEN D. HERTZ
ALLEN D HERTZ, P.A.
12784 TULIPWOOD CIRCLE
BOCA RATON, FL 33428

OC000000068472903

Date Mailed: 05/15/2014

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/25/2014.

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.

/dtvernon/

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

Google Ex. 1021, p. 016

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	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/396,843	04/03/2006	Ehud Mendelson	2031.0100

CONFIRMATION NO. 3897

POWER OF ATTORNEY NOTICE

34170
GOLD & RIZVI, P.A.
11575 Heron Bay Blvd.
SUITE 106
Coral Springs, FL 33076

OC000000068472894

Date Mailed: 05/15/2014

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/25/2014.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/dtvernon/

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

Google Ex. 1021, p. 017

PTO/SB/81A (12-08)
Approved for use through 11/30/2011. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

PATENT - POWER OF ATTORNEY OR REVOCATION OF POWER OF ATTORNEY WITH A NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Patent Number	7,899,583
Issue Date	March 01, 2011
First Named Inventor	Ehud Mendelson
Title	SYSTEM AND METHOD OF DETECTING AND NAVIGATING TO EMPTY PARKING SPACES
Attorney Docket Number	MEN-06-003

I hereby revoke all previous powers of attorney given in the above-identified patent.

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith: 31877

OR

☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified patent to:

☒ The address associated with the above-mentioned Customer Number.

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the:

☒ Inventor, having ownership of the patent.

OR

☐ Patent owner.

Statement under 37 CFR 3.73(b) (Form PTO/SB/96) submitted herewith or filed on _____.

SIGNATURE of Inventor or Patent Owner

Signature	/Ehud Mendelson/	Date	April 25, 2014
Name	Ehud Mendelson	Telephone	(954) 257-4319
Title and Company	Inventor		

NOTE: Signatures of all the inventors or patent owners of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 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, 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/47 (03-09)
Approved for use through 05/31/2015. OMB 0651-0016
U.S. Patent and Trademark Office: U. S. DEPARTMENT OF COMMERCE
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.

"FEE ADDRESS" INDICATION FORM

Address to:
Mail Stop M Correspondence
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

- OR -

Fax to:
571-273-6500

INSTRUCTIONS: The issue fee must have been paid for application(s) listed on this form. In addition, only an address represented by a Customer Number can be established as the fee address for maintenance fee purposes (hereafter, fee address). A fee address should be established when correspondence related to maintenance fees should be mailed to a different address than the correspondence address for the application. **When to check the first box below**: If you have a Customer Number to represent the fee address. **When to check the second box below**: If you have no Customer Number representing the desired fee address, in which case a completed Request for Customer Number (PTO/SB/125) must be attached to this form. For more information on Customer Numbers, see the Manual of Patent Examining Procedure (MPEP) § 403.

For the following listed application(s), please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the address associated with:

☑ Customer Number: 31877

OR

☐ The attached Request for Customer Number (PTO/SB/125) form.

PATENT NUMBER (if known)	APPLICATION NUMBER
7,899,583	11/396,843

Completed by (check one):

☐ Applicant/Inventor

☑ Attorney or Agent of record 50,942 (Reg. No.)

☐ Assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

☐ Assignee recorded at Reel _____ Frame_____

Signature

Allen D. Hertz
Typed or printed name

561-716-3915
Requester's telephone number

April 05, 2014
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☑ * Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.363. 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. 11 and 1.14. This collection is estimated to take 5 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, VA 22313- 1450. DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.
SEND TO: Mail Stop M Correspondence, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	18863999
Application Number:	11396843
International Application Number:	
Confirmation Number:	3897
Title of Invention:	SYSTEM AND METHOD OF DETECTING AND NAVIGATING TO EMPTY PARKING SPACES
First Named Inventor/Applicant Name:	Ehud Mendelson
Customer Number:	34170
Filer:	Allen D. Hertz
Filer Authorized By:	
Attorney Docket Number:	2031.0100
Receipt Date:	25-APR-2014
Filing Date:	03-APR-2006
Time Stamp:	15:40:42
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		MEN-06-003_Mendelson_Parking_POA-Maint_Fee_Executed.pdf	1770148 e624be8b21af245633fc392ad20caed7d26b824b	yes	2

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Power of Attorney	1	1
	Maintenance Fee Address Change	2	2
Warnings:			
Information:			
	Total Files Size (in bytes):	1770148	

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.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/396,843	03/01/2011	7899583	2031.0100	3897

34170 7590 02/09/2011

GOLD & RIZVI, P.A.
11575 Heron Bay Blvd.
SUITE 309
Coral Springs, FL 33076

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 543 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):

Ehud Mendelson, Coral Springs, FL;

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)

34170 7590 10/25/2010

GOLD & RIZVI, P.A.
11575 Heron Bay Blvd.
SUITE 309
Coral Springs, FL 33076

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.

Tommy Chiu	(Depositor's name)
/tommy chiu/	(Signature)
Filed via EFS-web - Jan. 18, 2011	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/396,843	04/03/2006	Ehud Mendelson	2031.0100	3897

TITLE OF INVENTION: SYSTEM AND METHOD OF DETECTING AND NAVIGATING TO EMPTY PARKING SPACES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$755	$300	$0	$1055	01/25/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
BEAULIEU, YONEL	3661	701-001000

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 Gold & Rizvi, P.A.
2 Glenn E. Gold
3 H. John Rizvi

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. **Via EFS Credit Card Process**

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number **502683** (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature /glenn gold/ Date Jan. 18, 2011

Typed or printed name Glenn E. Gold Registration No. 41,039

This collection of information 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.

Electronic Patent Application Fee Transmittal

Application Number:	11396843
Filing Date:	03-Apr-2006
Title of Invention:	SYSTEM AND METHOD OF DETECTING AND NAVIGATING TO EMPTY PARKING SPACES
First Named Inventor/Applicant Name:	Ehud Mendelson
Filer:	Glenn Eric Gold/Tommy Chiu
Attorney Docket Number:	2031.0100

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:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	2501	1	755	755
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Google Ex. 1021, p. 024

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1055**

Electronic Acknowledgement Receipt

EFS ID:	9246235
Application Number:	11396843
International Application Number:	
Confirmation Number:	3897
Title of Invention:	SYSTEM AND METHOD OF DETECTING AND NAVIGATING TO EMPTY PARKING SPACES
First Named Inventor/Applicant Name:	Ehud Mendelson
Customer Number:	34170
Filer:	Glenn Eric Gold/Tommy Chiu
Filer Authorized By:	Glenn Eric Gold
Attorney Docket Number:	2031.0100
Receipt Date:	18-JAN-2011
Filing Date:	03-APR-2006
Time Stamp:	09:39:57
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$1055
RAM confirmation Number	13401
Deposit Account	502683
Authorized User	GOLD,GLENN

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 1.16 (National application filing, search, and examination fees)

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 1.20 (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)	2031-0100_NOA_IssueFeePartB-executed.pdf	984223 d7a6b9289abaf4e4f31e51538c3f5bf9e5ffd7b1	no	1
Warnings:					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	31798 e6080684a96bce1bc3ddf9bc4490ab4780213d24	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1016021		

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.

Issue Classification	Application/Control No.	Applicant(s)/Patent under Reexamination	
	11/396,843	MENDELSON, EHUD	
	Examiner	Art Unit	
	/Yonel Beaulieu/	3661	

ISSUE CLASSIFICATION

ORIGINAL CLASS	ORIGINAL SUBCLASS	CROSS REFERENCE(S) CLASS	CROSS REFERENCE(S) SUBCLASS (ONE SUBCLASS PER BLOCK)
701	1	340	932.2

INTERNATIONAL CLASSIFICATION
G 06F 17/00
/
/
/
/

XXXXXXXXXXXXXXXX (Assistant Examiner) (Date)	/Yonel Beaulieu/ Yonel Beaulieu 10/20/10 (Primary Examiner) (Date)	**Total Claims Allowed: 24**
(Legal Instruments Examiner) (Date)		O.G. Print Claim(s): 1 / O.G. Print Fig.

☐ 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
1	1		31		61		91		121		151		181
	2		32		62		92		122		152		182
	3		33		63		93		123		153		183
	4		34		64		94		124		154		184
	5		35		65		95		125		155		185
2	6		36		66		96		126		156		186
	7		37		67		97		127		157		187
~~3~~	8		38		68		98		128		158		188
4	9		39		69		99		129		159		189
5	10		40		70		100		130		160		190
6	11		41		71		101		131		161		191
7	12		42		72		102		132		162		192
8	13		43		73		103		133		163		193
9	14		44		74		104		134		164		194
10	15		45		75		105		135		165		195
11	16		46		76		106		136		166		196
12	17		47		77		107		137		167		197
13	18		48		78		108		138		168		198
14	19		49		79		109		139		169		199
15	20		50		80		110		140		170		200
16	21		51		81		111		141		171		201
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18	23		53		83		113		143		173		203
19	24		54		84		114		144		174		204
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21	26		56		86		116		146		176		206
22	27		57		87		117		147		177		207
23	28		58		88		118		148		178		208
24	29		59		89		119		149		179		209
	30		60		90		120		150		180		210

12/3/10

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GOLD & RIZVI, P.A.
11575 Heron Bay Blvd.
SUITE 309
Coral Springs, FL 33076

Courtesy Reminder for Application Serial No: 11/396,843

Attorney Docket No: 2031.0100
Customer Number: 34170
Date of Electronic Notification: 10/25/2010

This is a courtesy reminder that new correspondence is available for this application. The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

An email notification regarding the correspondence was sent to the following email address(es) associated with your customer number:

PTOmail@ideaattorneys.com
john@ideaattorneys.com
glenn@ideaattorneys.com

Please verify that these email addresses are correct.

To view your correspondence online or update your email addresses, please visit us anytime at **https://sportal.uspto.gov/secure/myportal/privatepair.** If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov or call 1-866-217-9197.

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

34170 7590 10/25/2010

GOLD & RIZVI, P.A.
11575 Heron Bay Blvd.
SUITE 309
Coral Springs, FL 33076

EXAMINER	
BEAULIEU, YONEL	
ART UNIT	PAPER NUMBER
3661	

DATE MAILED: 10/25/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/396,843	04/03/2006	Ehud Mendelson	2031.0100	3897

TITLE OF INVENTION: SYSTEM AND METHOD OF DETECTING AND NAVIGATING TO EMPTY PARKING SPACES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$755	$300	$0	$1055	01/25/2011

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 SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

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.

Google Ex. 1021, p. 030

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)

34170 7590 10/25/2010

GOLD & RIZVI, P.A.
11575 Heron Bay Blvd.
SUITE 309
Coral Springs, FL 33076

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.
11/396,843	04/03/2006	Ehud Mendelson	2031.0100	3897

TITLE OF INVENTION: SYSTEM AND METHOD OF DETECTING AND NAVIGATING TO EMPTY PARKING SPACES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$755	$300	$0	$1055	01/25/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
BEAULIEU, YONEL	3661	701-001000

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 credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

❑ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information 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.

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.
11/396,843	04/03/2006	Ehud Mendelson	2031.0100	3897

34170 7590 10/25/2010

GOLD & RIZVI, P.A.
11575 Heron Bay Blvd.
SUITE 309
Coral Springs, FL 33076

EXAMINER	
BEAULIEU, YONEL	
ART UNIT	PAPER NUMBER
3661	

DATE MAILED: 10/25/2010

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

The Patent Term Adjustment to date is 194 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 194 day(s).

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 Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Google Ex. 1021, p. 032

Notice of Allowability	Application No.	Applicant(s)	
	11/396,843	MENDELSON, EHUD	
	Examiner	Art Unit	
	/Yonel Beaulieu/	3661	

-- 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 *amendments/arguments filed 8/11/10*.

2. ☒ The allowed claim(s) is/are *1,6 and 8-29*.

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

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ 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. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Yonel Beaulieu/
Yonel Beaulieu

Allowable Subject Matter

Remaining claims 1, 6, and 8 – 29 are allowed as amended and argued.

The prior art of record fail to teach a wireless parking detector comprising, among other limitations, a portable user's device providing a guide to a parking space, the portable device incorporating a monitoring system comprising parking space monitoring software and a signal receiver configured to scan for all unique sensor broadcast names, wherein repeated broadcasts are respectively emitted from the RF transmitter directly to portable device and the space monitoring software determines the location of each empty parking space associated with each received unique sensor broadcast names from the scan and displays each parking location.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Yonel Beaulieu/ whose telephone number is (571) 272-6955. The examiner can normally be reached on Mon., Wed. & Thur. between 0900 and 1600.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas BLACK can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/Yonel Beaulieu/
Yonel Beaulieu
Primary Examiner
Art Unit 3661

Search Notes

Application/Control No.	Applicant(s)/Patent under Reexamination
11/396,843	MENDELSON, EHUD
Examiner	**Art Unit**
/Yonel Beaulieu/	3661

SEARCHED			
Class	Subclass	Date	Examiner
701	1	10/20/2010	YB
340	932.2	10/20/2010	YB

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner
Searched above		10/20/2010	YB

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
WEST Update	10/20/2010	YB

Index of Claims

Application/Control No.	Applicant(s)/Patent under Reexamination
11/396,843	MENDELSON, EHUD
Examiner	**Art Unit**
/Yonel Beaulieu/	3661

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claim		Date
Final	Original	10/20/10
1	1	=
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Issue Classification	Application/Control No.	Applicant(s)/Patent under Reexamination	
	11/396,843	MENDELSON, EHUD	
	Examiner	Art Unit	
	/Yonel Beaulieu/	3661	

ISSUE CLASSIFICATION

ORIGINAL			CROSS REFERENCE(S)						
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)						
701	1	340	932.2						
INTERNATIONAL CLASSIFICATION									
G 0 6 F	17/00								
	/								
	/								
	/								
	/								

XXXXXXXXXXXXXXXX (Assistant Examiner) (Date)	/Yonel Beaulieu/ Yonel Beaulieu 10/20/10 (Primary Examiner) (Date)	**Total Claims Allowed: 24**
(Legal Instruments Examiner) (Date)		O.G. Print Claim(s): 1 / O.G. Print Fig.

☐ 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
1	1		31		61		91		121		151		181
	2		32		62		92		122		152		182
	3		33		63		93		123		153		183
	4		34		64		94		124		154		184
	5		35		65		95		125		155		185
2	6		36		66		96		126		156		186
	7		37		67		97		127		157		187
3	8		38		68		98		128		158		188
4	9		39		69		99		129		159		189
5	10		40		70		100		130		160		190
6	11		41		71		101		131		161		191
7	12		42		72		102		132		162		192
8	13		43		73		103		133		163		193
9	14		44		74		104		134		164		194
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21	26		56		86		116		146		176		206
22	27		57		87		117		147		177		207
23	28		58		88		118		148		178		208
24	29		59		89		119		149		179		209
	30		60		90		120		150		180		210

Google Ex. 1021, p. 038

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 3897

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
11/396,843	04/03/2006 RULE	701	3661	2031.0100

APPLICANTS
Ehud Mendelson, Coral Springs, FL;

**** CONTINUING DATA ***************************
This appln claims benefit of 60/670,097 04/12/2005

**** FOREIGN APPLICATIONS **************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
05/05/2006

Foreign Priority claimed	35 USC 119(a-d) conditions met	Verified and Acknowledged	Met after Allowance	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ Yes ☑ No	☐ Yes ☑ No	/YONEL BEAULIEU/ Examiner's Signature	☐ Initials	FL	5	24	2

ADDRESS

GOLD & RIZVI, P.A.
11575 Heron Bay Blvd.
SUITE 309
Coral Springs, FL 33076
UNITED STATES

TITLE

System and method of detecting and navigating to empty parking spaces

FILING FEE RECEIVED		
600	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

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Database: US Pre-Grant Publication Full-Text Dat
US Patents Full-Text Database
Unpublished Applications Full-Text Dat

Search Type: ○ Prior Art ◉ Interference

Search: L14

Refine Search

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Search History

DATE: Wednesday, October 20, 2010 Purge Queries Printable Copy Create Case

Set Name Side by Side	Query	Hit Count	Set Name Result Set	Set Name Grid
Interference Searches				
DB=PGPB,USPT,UPAD; PLUR=YES; OP=OR				
L14	L13 and l12	0	L14	L14
L13	name and status	216971	L13	L13
L12	L11 and l8	4	L12	L12
L11	L10 or l9	599787	L11	L11

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L10	handheld	122606	L10	L10
L9	portable	533103	L9	L9
L8	L7 and l6	10	L8	L8
L7	L2 or l4	77	L7	L7
L6	vacant adj parking	146	L6	L6
L5	wireless adj parking	28	L5	L5
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L3	("20060033641" | "7026954" | "6970101" | "5910782")[PN]	4	L3	L3
DB=USPT; PLUR=YES; OP=OR				
L2	("2006/0033641" | "7026954" | "6970101" | "5910782" | "20060033641")[URPN]	54	L2	L2
DB=PGPB,USPT,UPAD; PLUR=YES; OP=OR				
L1	(5910782 6970101 7026954 20060033641).pn.	4	L1	L1

END OF SEARCH HISTORY

In The United States Patent Trademark Office

Application No.:	11/396,843	Confirmation No. 3897
Applicant	: Ehud Mendelson	
Title	: **System and Method of Detecting and Navigating To Empty Parking Spaces**	
Filed	: April 3, 2006	
Examiner	: Yonel Beaulieu	Tel: 571 272-6955
Docket No.	: 2031.0100	TC/GAU: 3661
Customer No.	: 34170	

Mail Stop: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Reply to NON-Final Office Action dated May 12, 2010 under C.F.R. § 1.121

Sir:

In response to the NON-FINAL office action dated May 12, 2010. The Examiner established a shortened statutory period for a response of THREE (3) Months. This Amendment is being electronically submitted on or before the THREE (3) MONTH anniversary of August 12, 2010. Applicant earnestly believes the response is filed in a timely manner and therefore no additional fees are required.

Amendments to the Claims are reflected in the listing of claims, which begins on page 02 of this paper.

Remarks/Arguments begin on page 09 of this paper.

Conclusions begin on page 19 of this paper.

IN THE CLAIMS

Claims 2-5 and 7 have been previously canceled.

Please amend **Claims 1, 6, and 25** in this amendment.

No claims were canceled in this amendment.

No claims were added in this amendment.

No claims were withdrawn in this amendment.

An amended version of the pending claims starts on page 03 in accordance with 37 CFR § 1.121(c)(3) as follows: The status of each Claim is indicated adjacent the Claim Number in accordance with the proper status identifiers: (Original), (Currently Amended), (Canceled), (Previously presented), (New), (Not Entered), (Withdrawn), and (Withdrawn-currently amended) in accordance with 37 CFR § 1.121. Any changes to the claims are shown by strikethrough (for deleted matter) or brackets [ ] for deletion of less than five (5) characters and underlining (for added matter, excluding New Claims).

Thereafter, starting on a separate page, (Page 09), is the Remarks portion in accordance with 37 CFR § 1.111.

Google Ex. 1021, p. 043

Claim Listing:

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

Claim 1. (Currently amended) A wireless parking detector, comprising:

a series of parking space status sensors, each parking space status sensor comprising a RF transmitter and a vehicle sensor, each parking space status sensor comprising a unique sensor broadcast name, each parking space status sensor being positioned proximate a unique parking spot, wherein the parking space status sensor monitors a vacancy status of the parking space, and the RF transmitter emits repeated broadcasts of the unique sensor broadcast name only when the status of the parking space is determined as vacant; and

a portable user's device providing a guide to a parking space, the portable user's device incorporating a monitoring system comprising parking space monitoring software and a signal receiver, wherein the signal receiver is configured to scan for all of the unique sensor broadcast names; and

parking space monitoring software that references each unique sensor broadcast name to a parking space identified on a location map,

wherein the repeated broadcasts are emitted from the RF transmitter and directly to the portable user's device, and

wherein the parking space monitoring software determines the location of each empty parking space associated with each received unique sensor broadcast names from the scan and displays the each empty parking locations.

Claims 2-5. (Canceled)

Google Ex. 1021, p. 044

Claim 6. (Currently amended) The wireless parking detector according to claim 1, wherein the parking ID to include[s] a known address, price, and type of parking selected from the group consisting normal parking and handicap parking.

Claim 7. (Canceled)

Claim 8. (Previously presented) The method according to claim 25, which further comprises floating the empty parking space information over an existing floor plan.

Claim 9. (Previously presented) The method according to claim 25, wherein the empty parking space information is displayed as a stand alone application without background mapping.

Claim 10. (Previously presented) The method according to claim 25, which further comprises displaying the empty parking space information over at least one of a facility map, an area map, and a floor plan downloaded to the display device.

Claim 11. (Previously presented) The method according to claim 25, wherein the empty parking space information pertains to navigating a current parking area.

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Google Ex. 1021, p. 045

Claim 12. (Original) The method according to claim 11, which further comprises determining a current position of a vehicle based on known positions of the wireless parking sensors to the vehicle.

Claim 13. (Original) The method according to claim 12, which further comprises navigating to the current parking area using a mapping facility.

Claim 14. (Previously presented) The method according to claim 25, which further comprises producing a parking ticket with an exact location to a park space for a vehicle, the parking ticket being distributed by a parking garage.

Claim 15. (Previously presented) The method according to claim 25, which further comprises paying electronically the parking sensor which replaces a parking meter.

Claim 16. (Previously presented) The method according to claim 25, wherein the parking sensor automatically debits the display device.

Claim 17. (Original) The method according to claim 12, which further comprises performing the determining step without an aid of a global positioning satellite system or central database system.

Google Ex. 1021, p. 046

Claim 18. (Previously presented) The method according to claim 25, which further comprises: registering an exact parking place location of a vehicle on the display device; and subsequently allow return to parking navigating to where the vehicle is parked.

Claim 19. (Original) The method according to claim 18, which further comprises displaying on the display device a mapping between a current position and the exact parking place location of the vehicle.

Claim 20. (Previously presented) The method according to claim 25, which further comprises displaying additional information of an available parking space as a waypoint.

Claim 21. (Previously presented) The method according to claim 25, which further comprises providing the display device with an omni directional circular display.

Claim 22. (Previously presented) The method according to claim 25, which further comprises forming the display device as a head-up display device projecting onto a vehicle windshield and displaying the empty parking space information via the head-up device.

Claim 23. (Original) The method according to claim 21, which further comprises determining a distance to and a direction to an empty parking space with the omni directional circular display.

Google Ex. 1021, p. 047

Claim 24. (Previously presented) The method according to claim 25, which further comprises providing the display device with application software for displaying pre-loaded area maps or parking facility floor plans.

Claim 25. (Currently amended) A method of identifying available parking spots, the method comprising the steps of:

deploying a series of parking space status sensors, each parking space status sensors having a unique sensor broadcast name and is positioned and mapped respective to a unique parking space;

monitoring the status of a series of parking space;

determining the vacancy of each parking space being monitored;

emitting repeat broadcasts of the respective unique sensor broadcast name of each parking space only when the respective parking space is determined to be vacant, wherein the emitted repeat broadcasts are directly received by a portable user's device, the portable user's device incorporating a monitoring system comprising parking space monitoring software and a signal receiver, wherein the signal receiver is configured to scan for all of the unique sensor broadcast names;

scanning with the portable user's device to receive each of the emitted respective unique sensor broadcast names;

determining each empty parking space from the emitted respective unique sensor broadcast names; and

communicating each empty parking space to an end user via a display device.

Google Ex. 1021, p. 048

Claim 26. (Previously presented) The wireless parking detector according to claim 1, the RF transmitter transmits in accordance with a Bluetooth protocol.

Claim 27. (Previously presented) The wireless parking detector according to claim 1, further comprising a cellular telephone, wherein the parking space monitoring software, signal receiver, and display are integrated into the cellular telephone.

Claim 28. (Previously presented) The wireless parking detector according to claim 1, wherein the parking space monitoring software, signal receiver, and display are integrated into a user interface of a vehicle.

Claim 29. (Previously presented) The wireless parking detector according to claim 1, further comprising a return to parking feature, wherein the return to parking feature saves the location in which a user's vehicle is parked.

Google Ex. 1021, p. 049

REMARKS

Claims 1, 6, and 8-29 remain pending in the subject application.

Claims 1, 6, and 25 have been amended in this correspondence.

No Claims have been canceled in this correspondence.

No Claims have been added in this correspondence.

No Claims have been withdrawn in this correspondence.

Detailed Action

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/29/2010 has been entered.

1a. (Applicant's remarks): Applicant respectfully acknowledges and thanks the Examiner's withdrawal of the finality of the previous Office Action.

Claim Objections

2. (Examiner's Position): The Examiner objected to **Claim 6** because of the following informalities: it is suggested to change "includes" to - -include- -. Appropriate correction is required.

Google Ex. 1021, p. 050

2a. (Applicant's remarks): Applicant has amended Claim 6 as follows: "wherein the parking ID to *include[s]* a known address, price, and type of parking…". Applicant earnestly believes the objection to **Claim 6** has been overcome by amendment.

Claim Rejections - 35 *USC* § *102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371 (c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e).

4. The Examiner has rejected **Claims 1, 8 -14, 17 - 20, 24, 25, 27, and 29** under 35 U.S.C. 102(e) as being anticipated by USP 7,026,954 B2 to Slemmer et al. ("Slemmer").

4A. (Examiner's Position): Regarding **Claims 1 and 25**, Slemmer teaches identifying available parking spots by a wireless parking detector comprising a series of parking space status

Google Ex. 1021, p. 051

sensors (1201 ... 120n) each comprising a RF transmitter and a vehicle sensor (col. 7, lines 24-51 at least), each parking space comprising a unique name (201 ... 20n) and positioned/mapped proximate a unique parking spot (see fig. 2), monitoring a vacancy (availability) status of the parking space and the RF transmitter emits repeated broadcasts when the space is determined as vacant to a scan receiver (item 321 T provides for the scanning (col. 3, lines 35 - 52; col. 4, lines 50 - 56), the parking space being identified on a location map (see fig. 5A; col. 2, lines 59 - 61), and communicating each empty parking space via a display device (150; figs. 2, 3, 4, 58, 10; col. 5, lines 1 - 43 at least).

4a. (Applicant's remarks): Slemmer requires a system 310 to collect data respective to the parking spaces. The system manages the data, then transmits the processed information to the end user's wireless devices. Contrarily, the present invention only broadcasts a message when the space is determined to be vacant, and the broadcast is transmitted directly to the end user's wireless or portable device.

Applicant has amended **Claims 1 and 25** to more clearly and concisely define the present invention as a parking space monitoring system located at the parking space and transmitting directly to a user's portable receiving device.

Applicant has amended **Claim 1** as follows:

"a portable user's device providing a guide to a parking space, the portable user's device incorporating a monitoring system comprising parking space monitoring software and a signal receiver, wherein the signal receiver is configured to scan for all of the unique sensor broadcast names; and

parking space monitoring software that references each unique sensor broadcast name to a parking space identified on a location map,

wherein the repeated broadcasts are emitted from the RF transmitter and directly to the portable user's device, and

Google Ex. 1021, p. 052

wherein the parking space monitoring software determines the location of each empty parking space associated with each received unique sensor broadcast names from the scan and displays the each empty parking locations."

Applicant has amended **Claim 25** as follows:

"emitting repeat broadcasts of the respective unique sensor broadcast name of each parking space only when the respective parking space is determined to be vacant, wherein the emitted repeat broadcasts are directly received by a portable user's device, the portable user's device incorporating a monitoring system comprising parking space monitoring software and a signal receiver, wherein the signal receiver is configured to scan for all of the unique sensor broadcast names;

scanning with the portable user's device to receive each of the emitted respective unique sensor broadcast names;"

Support for the amendments to the claims is presented in FIG. 4, wherein the parking sensors 410 transmit directly to a cellular phone 210 or car navigation 310 in-car 420 navigation system. These devices are collectively referred to as a portable user's device. Additional support is presented in Para [00147] "The sensor recognizes the vacancy and broadcast it to be received by the parking detector application on ether cellular phone 210 or car navigation 310 in-car 420 navigation system."

Applicant earnestly believes the distinction between transmitting from a parking sensor into a parking monitoring system (as taught by Slemmer) is distinctly different from a system which transmits a signal directly to an end user from each individual parking space. Moreso, the system, as claimed, transmits a reference for the space location directly to the end user.

Applicant earnestly believes the rejection of **Claims 1 and 25** under 35 U.S.C. 102(e) as being anticipated by Slemmer has been overcome by amendments and remarks submitted herein. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claims 1 and 25** under 35 U.S.C. 102(e) as being anticipated by Slemmer.

Google Ex. 1021, p. 053

4B. (Examiner's Position): Regarding **Claims 8, 10, and 24**, Slemmer further teaches floating the space information over an existing floor plan (as supported by figs. 5A and 6 at least).

4b. (Applicant's remarks): **Claims 8, 10, and 24** depend from Independent **Claim 25**.

Claims 8, 10, and 24 contain all the limitations of **Claim 25**, due to their dependency therefrom. Applicant earnestly believes the rejection of **Claim 25** under 35 U.S.C. 102(e) as being anticipated by Slemmer has been overcome by amendments and remarks submitted in section 4a above. Thus, it follows that **Claims 8, 10, and 24** are also patentable over Slemmer. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claims 8, 10, and 24** under 35 U.S.C. 102(e) as being anticipated by Slemmer.

4C. (Examiner's Position): Regarding **Claim 9**, Slemmer further teaches displaying the empty parking space information as a stand alone application without background mapping (displayed information on item 50 in figs. 3-4 requires no mapping background).

4c. (Applicant's remarks): **Claim 9** depends from Independent **Claim 25**.

Claim 9 contains all the limitations of **Claim 25**, due to its dependency therefrom. Applicant earnestly believes the rejection of **Claim 25** under 35 U.S.C. 102(e) as being anticipated by Slemmer has been overcome by amendments and remarks submitted in section 4a above. Thus, it follows that **Claim 9** is also patentable over Slemmer. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claim 9** under 35 U.S.C. 102(e) as being anticipated by Slemmer.

4D. (Examiner's Position): Regarding **Claims 11 - 13 and 17**, Slemmer further teaches the empty parking space information pertains to navigating a current parking area based on the

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position of sensors (col. 6, line 61 - col. 7, line 6 at least). Slemmer makes no mention of a global positioning satellite system for the operation of detecting the parking space.

4d. (Applicant's remarks): Claims 11 and 12 depend from Independent **Claim 25**. **Claims 13 and 17** depend from Depending **Claim 12**, which depends from Independent **Claim 25**.

Claims 11 - 13 and 17 contain all the limitations of **Claim 25**, due to their dependency therefrom. Applicant earnestly believes the rejection of **Claim 25** under 35 U.S.C. 102(e) as being anticipated by Slemmer has been overcome by amendments and remarks submitted in section 4a above. Thus, it follows that **Claims 11 - 13 and 17** are also patentable over Slemmer. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claims 11 - 13 and 17** under 35 U.S.C. 102(e) as being anticipated by Slemmer.

4E. (Examiner's Position): Regarding **Claims 14, 18, 19, and 29**, Slemmer further teaches producing a parking ticket with an exact location to a park space for a vehicle, the ticket being distributed by a parking garage and the space location being registered to allow return to where the vehicle is parked (as supported by fig. 9; note col. 3, lines 13 - 16; col. 9, line 53 - col. 10, line 13 at least).

4e. (Applicant's remarks): Claims 14 and 18 depend from Independent **Claim 25**. **Claim 19** depends from Depending **Claim 18**, which depends from Independent **Claim 25**. **Claim 29** depends from Independent **Claim 1**.

Claims 14, 18, and 19 contain all the limitations of **Claim 25**, due to their dependency therefrom. **Claim 29** contains all the limitations of **Claim 1**, due to its dependency therefrom. Applicant earnestly believes the rejection of **Claims 1 and 25** under 35 U.S.C. 102(e) as being anticipated by Slemmer have been overcome by amendments and remarks submitted in section 4a above. Thus, it follows that **Claims 14, 18, 19, and 29**are also patentable over Slemmer. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claims 14, 18, 19, and 29** under 35 U.S.C. 102(e) as being anticipated by Slemmer.

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4F. (Examiner's Position): Regarding **Claim 20**, Slemmer further teaches displaying the available parking space as a waypoint ("turn left," "go straight past two rows," "turn left" ... note col. 6, line 38 - col. 7, line 6 at least).

4f. (Applicant's remarks): **Claim 20** depends from Independent **Claim 25**.

Claim 20 contains all the limitations of **Claim 25**, due to its dependency therefrom. Applicant earnestly believes the rejection of **Claim 25** under 35 U.S.C. 102(e) as being anticipated by Slemmer has been overcome by amendments and remarks submitted in section 4a above. Thus, it follows that **Claim 20** is also patentable over Slemmer. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claim 20** under 35 U.S.C. 102(e) as being anticipated by Slemmer.

4G. (Examiner's Position): Regarding **Claim 27**, Slemmer's teaching further includes a cellular telephone for display thereto (figs. 3-4; col. 5, lines 1 - 33 at least).

4g. (Applicant's remarks): **Claim 27** depends from Independent **Claim 1**.

Claim 27 contains all the limitations of **Claim 1**, due to its dependency therefrom. Applicant earnestly believes the rejection of **Claim 1** under 35 U.S.C. 102(e) as being anticipated by Slemmer has been overcome by amendments and remarks submitted in section 4a above. Thus, it follows that **Claim 27** is also patentable over Slemmer. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claim 27** under 35 U.S.C. 102(e) as being anticipated by Slemmer.

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Claim Rejections - 35 USC § 103

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

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5A. The Examiner rejected **Claims 6, 15, 16, 21 - 23, 26, and 28** under 35 U.S.C. 103(a) as being unpatentable over Slemmer ('954 B2).

5B. (Examiner's Position): As to **Claims 6, 15, and 16**, Slemmer teaches all of the limitations except for including known address and price, automatically debit/paying electronically. However, as noted in col. 9, lines 53 - 61 at least, it would have been obvious to one of ordinary skill in the art at the time of the invention such a teaching is equivalent to what is claimed as the same end result of identifying available parking spots.

5b. (Applicant's remarks): **Claim 6** depends from Independent **Claim 1**. **Claims 15 and 16** depend from Independent **Claim 25**.

Claim 6 contains all the limitations of **Claim 1**, due to its dependency therefrom. **Claims 15 and 16** contain all the limitations of **Claim 25**, due to their dependency therefrom. Applicant earnestly believes the rejection of **Claims 1 and 25** under 35 U.S.C. 102(e) as being anticipated by Slemmer have been overcome by amendments and remarks submitted in section 4a above. Thus, it follows that **Claims 6, 15, and 16** are also patentable over Slemmer. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claims 6, 15, and 16** under 35 U.S.C. 103(a) as being anticipated by Slemmer.

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5C. (Examiner's Position): As to **Claims 21 and 23**, Slemmer teaches all of the limitations except for the display being an omni directional circular display. Slemmer's display has been shown to perform equally well.

5c. (Applicant's remarks): **Claim 21** depends from Independent **Claim 25**. **Claim 23** depends from Depending Claim 21, which depend from Independent **Claim 25**.

Claims 21 and 23 contain all the limitations of **Claim 25**, due to their dependency therefrom. Applicant earnestly believes the rejection of **Claim 25** under 35 U.S.C. 102(e) as being anticipated by Slemmer has been overcome by amendments and remarks submitted in section 4a above. Thus, it follows that **Claims 21 and 23** are also patentable over Slemmer. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claims 21 and 23** under 35 U.S.C. 103(a) as being anticipated by Slemmer.

5D. (Examiner's Position): As to **Claim 22**, a display device being a head-up display projecting onto a windshield is well known.

5d. (Applicant's remarks): **Claim 22** depends from Independent **Claim 25**.

Claim 22 contains all the limitations of **Claim 25**, due to its dependency therefrom. Applicant earnestly believes the rejection of **Claim 25** under 35 U.S.C. 102(e) as being anticipated by Slemmer has been overcome by amendments and remarks submitted in section 4a above. Thus, it follows that **Claim 22** is also patentable over Slemmer. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claim 22** under 35 U.S.C. 103(a) as being anticipated by Slemmer.

5E. (Examiner's Position): As to **Claim 26**, Slemmer is not explicit on the transmission being in accordance with a Bluetooth protocol. It is well recognized that Bluetooth protocol uses short-range transmission which is within the teaching of the RF transmission of Slemmer.

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5e. (Applicant's remarks): **Claim 26** depends from Independent **Claim 1**.

Claim 26 contains all the limitations of **Claim 1**, due to its dependency therefrom. Applicant earnestly believes the rejection of **Claim 1** under 35 U.S.C. 102(e) as being anticipated by Slemmer has been overcome by amendments and remarks submitted in section 4a above. Thus, it follows that **Claim 26** is also patentable over Slemmer. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claim 26** under 35 U.S.C. 103(a) as being anticipated by Slemmer.

5F. (Examiner's Position): As to **Claim 28**, integrating a display, a receiver and monitoring software into a user interface of a vehicle falls within the knowledge of the skilled artisan at the time of the invention.

5f. (Applicant's remarks): **Claim 28** depends from Independent **Claim 1**.

Claim 28 contains all the limitations of **Claim 1**, due to its dependency therefrom. Applicant earnestly believes the rejection of **Claim 1** under 35 U.S.C. 102(e) as being anticipated by Slemmer has been overcome by amendments and remarks submitted in section 4a above. Thus, it follows that **Claim 28** is also patentable over Slemmer. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claim 28** under 35 U.S.C. 103(a) as being anticipated by Slemmer.

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Conclusions

Claims 1, 6, and 8-29 remain in the application. **Claims 1, 6, and 25** have been amended herein. **Claim 2-5 and 7** were previously canceled in a prior amendment.

The Subject NON-FINAL OFFICE ACTION was mailed on May 12, 2010. The Examiner provided a shortened statutory period of THREE (3) MONTHS. Applicant has responded on or before the THREE (3) MONTH anniversary of Thursday, August 12, 2010. Applicant earnestly believes the response is considered as being timely.

Twenty-four (24) total claims, including three (3) Independent claims remain pending in this application. Applicant has previously paid for twenty-four (24) total claims and three (3) Independent claims. Therefore Applicant believes the claim fee is current and no excess claims fees are due resulting from this amendment.

Applicant earnestly believes the response to the subject Office Action is complete.

Applicant earnestly believes no new matter has been introduced in the amendments submitted herewith.

Applicant asserts that the amendments to the claims, as well as the traverses above clearly show that the present claims are patentable over the cited references and therefore should be allowed. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

If the Examiner believes that there are any informalities that can be corrected by Examiner's amendment, a telephone call to the undersigned Attorney of Record is respectfully solicited.

Applicant believes the response is filed in a timely manner and that no fees are required with this correspondence. However, if any additional fees are required in connection with the filing of this paper, permission is given to charge account number 502683 in the name of Gold & Rizvi, P.A.

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Respectfully submitted,
GOLD & RIZVI, P.A.
(Customer No. 34170)

By: _/glenn gold/_____
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Google Ex. 1021, p. 061

Electronic Acknowledgement Receipt

EFS ID:	8200568
Application Number:	11396843
International Application Number:	
Confirmation Number:	3897
Title of Invention:	System and method of detecting and navigating to empty parking spaces
First Named Inventor/Applicant Name:	Ehud Mendelson
Customer Number:	34170
Filer:	Glenn Eric Gold/Vincci Leung
Filer Authorized By:	Glenn Eric Gold
Attorney Docket Number:	2031.0100
Receipt Date:	11-AUG-2010
Filing Date:	03-APR-2006
Time Stamp:	17:05:27
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		2031-0100_NFOA_051210_Reply_081110.pdf	64157 7b0742ef1c7603a032375fbb93e935f21edc02f9	yes	20

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	2
	Claims	3	8
	Applicant Arguments/Remarks Made in an Amendment	9	20
Warnings:			
Information:			
	Total Files Size (in bytes):	64157	

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.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/396,843	04/03/2006	

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			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			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 $250 ($125 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			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 08/11/2010	(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))	* 24	Minus	** 24	=	X $ =		OR	X $ =	
Independent (37 CFR 1.16(h))	* 2	Minus	***3	=	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	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
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 number found in the appropriate box in column 1.

Legal Instrument Examiner:
/KATRINA S. TURNER/

This collection of information is required by 37 CFR 1.16. 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, 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/396,843	04/03/2006	Ehud Mendelson	2031.0100	3897

34170 7590 05/12/2010

GOLD & RIZVI, P.A.
11575 Heron Bay Blvd.
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EXAMINER	
BEAULIEU, YONEL	
ART UNIT	PAPER NUMBER
3661	

NOTIFICATION DATE	DELIVERY MODE
05/12/2010	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@ideaattorneys.com
john@ideaattorneys.com
glenn@ideaattorneys.com

Office Action Summary	Application No.	Applicant(s)	
	11/396,843	MENDELSON, EHUD	
	Examiner	Art Unit	
	/Yonel Beaulieu/	3661	

-- 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* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ 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

4)☒ Claim(s) *1,6 and 8-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6 and 8-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

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

10)☐ The drawing(s) filed on _____ 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).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

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).

a)☐ All b)☐ Some * c)☐ None of:

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) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/29/2010 has been entered.

Claim Objections

Claim 6 is objected to because of the following informalities: it is suggested to change “includes” to - -include- -. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 8 -14, 17 – 20, 24, 25, 27, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by USP 7026954 B2 to Slemmer et al ("Slemmer").

Regarding claims 1 and 25, Slemmer teaches identifying available parking spots by a wireless parking detector comprising a series of parking space status sensors ($120_1 \ldots 120_n$) each comprising a RF transmitter and a vehicle sensor (col. 7, lines 24 – 51 at least), each parking space comprising a unique name ($20_1 \ldots 20_n$) and positioned/mapped proximate a unique parking spot (see fig. 2), monitoring a vacancy (availability) status of the parking space and the RF transmitter emits repeated broadcasts when the space is determined as vacant to a scan receiver (item 321T provides for the scanning (col. 3, lines 35 - 52; col. 4, lines 50 – 56), the parking space being identified on a location map (see fig. 5A; col. 2, lines 59 – 61), and communicating each empty parking space via a display device (150; figs. 2, 3, 4, 5B, 10; col. 5, lines 1 – 43 at least).

Regarding claims 8, 10, and 24, Slemmer further teaches floating the space information over an existing floor plan (as supported by figs. 5A and 6 at least).

Regarding claim 9, Slemmer further teaches displaying the empty parking space information as a stand alone application without background mapping (displayed information on item 50 in figs. 3-4 requires no mapping background).

Regarding claims 11 – 13 and 17, Slemmer further teaches the empty parking space information pertains to navigating a current parking area based on the position of sensors (col. 6, line 61 – col. 7, line 6 at least). Slemmer makes no mention of a global positioning satellite system for the operation of detecting the parking space.

Regarding claims 14, 18, 19, and 29, Slemmer further teaches producing a parking ticket with an exact location to a park space for a vehicle, the ticket being distributed by a parking garage and the space location being registered to allow return to where the vehicle is parked (as supported by fig. 9; note col. 3, lines 13 – 16; col. 9, line 53 – col. 10, line 13 at least).

Regarding claim 20, Slemmer further teaches displaying the available parking space as a waypoint ("turn left," "go straight past two rows," "turn left"…note col. 6, line 38 – col. 7, line 6 at least).

Regarding claim 27, Slemmer's teaching further includes a cellular telephone for display thereto (figs. 3-4; col. 5, lines 1 – 33 at least).

Claim Rejections - 35 USC § 103

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

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6, 15, 16, 21 – 23, 26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slemmer ('954 B2).

As to claims 6, 15, 16, Slemmer teaches all of the limitations except for including known address and price, automatically debit/paying electronically. However, as noted in col. 9, lines 53 – 61 at least, it would have been obvious to one of ordinary skill in the art at the time of the invention such a teaching is equivalent to what is claimed as the same end result of identifying available parking spots.

As to claims 21 and 23, Slemmer teaches all of the limitations except for the display being an omni directional circular display. Slemmer's display has been shown to perform equally well.

As to claim 22, a display device being a head-up display projecting onto a windshield is well known.

As to claim 26, Slemmer is not explicit on the transmission being in accordance with a Bluetooth protocol. It is well recognized that Bluetooth protocol uses short-range transmission which is within the teaching of the RF transmission of Slemmer.

As to claim 28, integrating a display, a receiver and monitoring software into a user interface of a vehicle falls within the knowledge of the skilled artisan at the time of the invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Yonel Beaulieu/ whose telephone number is (571) 272-6955. The examiner can normally be reached on Mon., Wed. & Thur. between 0900 and 1600.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas BLACK can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/Yonel Beaulieu/
Yonel Beaulieu
Primary Examiner
Art Unit 3661

Notice of References Cited	Application/Control No. 11/396,843	Applicant(s)/Patent Under Reexamination MENDELSON, EHUD	
	Examiner /Yonel Beaulieu/	Art Unit 3661	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,026,954	04-2006	Slemmer et al.	340/932.2
*	B	US-2006/0033641	02-2006	Jaupitre et al.	340/932.2
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
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	P					
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	S					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	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.

MENU

Freeform Search

Database: US Pre-Grant Publication Full-Text Da
US Patents Full-Text Database
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EPO Abstracts Database
JPO Abstracts Database
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Search Type: (•) Prior Art ( ) Interference

Term: L17 and l16

Recall Text

Display: 300 Documents in Display Format: - Starting with Number 1

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Search History

DATE: Monday, May 03, 2010 Purge Queries Printable Copy Create Case

Set Name Side by Side	Query	Hit Count	Set Name Result Set	Set Name Grid
Prior Art Searches				
DB=PGPB,USPT; PLUR=YES; OP=OR				
L18	L17 and l16	11	L18	L18
L17	rfid or (rf adj id$)	40769	L17	L17
L16	L15 and l14	52	L16	L16

Google Ex. 1021, p. 074

L15	empty or available	6754138	L15	L15
L14	L13 and l12	52	L14	L14
L13	navigation	128052	L13	L13
L12	display$ same (available adj park$)	153	L12	L12
L11	L10 and l4	4	L11	L11
L10	scan$ same (parking adj (spot or space))	120	L10	L10
L9	scan same (parking adj (spot or space))	46	L9	L9
L8	L7 and l6	6	L8	L8
L7	unique adj id$	100089	L7	L7
L6	L5 and display$	10	L6	L6
L5	L4 and l2	10	L5	L5
L4	rf same broadcast$	17169	L4	L4
L3	rf same braodcast$	7	L3	L3
L2	available adj park$ adj space	279	L2	L2
L1	wireless near park$ near detect$	3	L1	L1

END OF SEARCH HISTORY

Index of Claims

Application/Control No.	Applicant(s)/Patent under Reexamination
11/396,843	MENDELSON, EHUD
Examiner	**Art Unit**
/Yonel Beaulieu/	3661

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
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Search Notes	Application/Control No.	Applicant(s)/Patent under Reexamination	
	11/396,843	MENDELSON, EHUD	
	Examiner	Art Unit	
	/Yonel Beaulieu/	3661	

SEARCHED			
Class	Subclass	Date	Examiner
701	1	5/3/2010	YB
	200-202		
	213-215		
340	932.2	5/3/2010	YB
	995.12		
	539.1		

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
WEST	5/3/2010	YB

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/396,843	04/03/2006	Ehud Mendelson	PD101

CONFIRMATION NO. 3897

POA ACCEPTANCE LETTER

34170
GOLD & RIZVI, P.A.
11555 Heron Bay Blvd.
SUITE 200
Coral Springs, FL 33076

OC00000040886211

Date Mailed: 04/01/2010

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/24/2010.

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.

/tha/

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

Google Ex. 1021, p. 078

PTO/SB/30 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Request for Continued Examination (RCE) Transmittal

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	11396843
Filing Date	April 3, 2006
First Named Inventor	Ehud Mendelson
Art Unit	3661
Examiner Name	Yonel Beaulieu
Attorney Docket Number	2031.0100

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. Submission required under 37 CFR 1.114 Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

   a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

      i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

      ii. ☐ Other _____

   b. ☑ Enclosed

      i. ☑ Amendment/Reply

      ii. ☐ Affidavit(s)/ Declaration(s)

      iii. ☐ Information Disclosure Statement (IDS)

      iv. ☐ Other _____

2. Miscellaneous

   a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

   b. ☐ Other _____

3. Fees The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

   a. ☑ The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. 502683.

      i. ☑ RCE fee required under 37 CFR 1.17(e)

      ii. ☑ Extension of time fee (37 CFR 1.136 and 1.17)

      iii. ☐ Other _____

   b. ☐ Check in the amount of $ _____ enclosed

   c. ☑ Payment by credit card (Form PTO-2038 enclosed)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature	/glenn gold/	Date	March 29, 2010
Name (Print/Type)	Glenn E. Gold	Registration No.	41039

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature	/glenn gold/		
Name (Print/Type)	Glenn E. Gold	Date	March 29, 2010

This collection of information is required by 37 CFR 1.114. 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 1.11 and 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

In The United States Patent Trademark Office

Application No.:	11/396,843	Confirmation No. 3897
Applicant	: Ehud Mendelson	
Title	: **System and Method of Detecting and Navigating To Empty Parking Spaces**	
Filed	: April 3, 2006	
Examiner	: Yonel Beaulieu	Tel: 571 272-6955
Docket No.	: 2031.0100	TC/GAU: 3661
Customer No.	: 34170	

Mail Stop: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY TO FINAL OFFICE ACTION DATED SEPT. 29, 2009 UNDER C.F.R. § 1.121

IN CONJUNCTION WITH

REQUEST FOR CONTINUED EXAMINATION UNDER 37 C.F.R. § 1.114

Sir:

In response to the FINAL office action dated September 29, 2009. The Examiner established a shortened statutory period for a response of THREE (3) Months. This Amendment is being electronically submitted on or before the SIX (6) MONTH anniversary of March 29, 2010 in conjunction with a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114. An RCE request form and respective fee of $405 (small entity) are submitted herewith. Applicant believes a petition for extension of THREE (3) MONTHS and respective fee of $555 (small entity) is required and submitted herewith.

Amendment to the Specification starts on page 02;

Amendments to the Claims are reflected in the listing of claims, which begins on page 09 of this paper.

Remarks/Arguments begin on page 15 of this paper.

Conclusions begin on page 23 of this paper.

Google Ex. 1021, p. 081

IN THE SPECIFICATION

Please amend the specification as follows:

1) Add paragraph reference numbers to each of the paragraphs.

2) Revise line spacing for clarity and flow.

3) Please amend Para [0001] as follows: "This application **is a Non-Provisional Application, claiming** ~~claims~~ the benefit of US Provisional application No. US60/670,097 filed April 12, 2005**, which is incorporated herein in its entirety**."

4) Please amend Para [0004] as follows: "…and is not adequate**;** recently, as a result,…"

5) Please amend Para [0049] as follows: "At present, however, no prior art device utilizes the capabilities to display a real-time representation of ~~an~~ available parking spaces directly from the sensors without central system."

6) Please amend Para [0050] as follows: "Other depends on a request to be ~~send~~ **sent** to a central system or a database for ~~a~~ parking where our system is a direct parking detector from the sensors."

7) Please amend Para [0051] as follows: "Again, most of the existing prior arts are base ether on a GPS system or ether the existing car navigator (depend on a GPS to)**, and** ~~And~~ the existing mapping that they use has the same limitation as describe before and therefore practically can't be implements and work."

8) Please amend Para [0052] as follows: "We believe that interface to the **Internet** ~~internet~~ can be a solution only for a remote planning and not a local solution where the driver is looking for a parking NOW!"

Google Ex. 1021, p. 082

9) Please amend Para [0058] as follows: "Various technologies are used for wireless indoor location. These may be classified in two aspects: The algorithm, i.e. the method of location used **and the** ~~**The**~~ physical layer~~.~~, i.e. the wireless technology used to communicate with the mobile device."

10) Please amend Para [0066] as follows: "With a typical gross ~~**bitrate**~~ **bit rate** of 11 Mbps and a range of 50-100 m, IEEE 802.11b is currently the dominant local wireless networking standard. It is therefore appealing to use an existing WLAN infrastructure for indoor location as well, by adding a location server. Such solutions do exist in the market, providing an accuracy of ~~.~~about~~.~~ 2 m."

11) Please amend Para [0068] as follows: "Compared to WLAN, the gross ~~**bitrate**~~ **bit rate** is lower (1 Mbps), and the range is shorter (typically 10-15 m, though there are Tags with a range of over 300 feet)."

12) Please amend Para [0073] as follows: "Most locations, buildings, malls, stores, museums, parks, city centers, subways, railways, etc., already have their own basic ~~**floor-plans**~~ **floor plans**."

13) Please amend Para [0075] as follows: "A very small RF sensor installed in each parking space, any place designated as parking space ether parking meter, parking garage, street parking inside or outside public or commercial-. **The** ~~**the**~~ sensor can be RFID (long range type), a long range Bluetooth, a ~~**wifi**~~ **WiFi** or any RF type. It broadcast**s** a unique ID by wireless that identifies the location of the parking space (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcast**s** ~~**it**~~ **the vacancy** to be ~~**pick up**~~ **received** by the parking detector."

14) Please amend Para [0079] as follows: "Our navigation system method will enable remote navigation based on the downloaded local floor plan, or locally, when the location's ~~**floor-plan**~~ **floor plan** can be downloaded at the destination."

Google Ex. 1021, p. 083

15) Please amend Para [0091] as follows: "Mapping background can **be** provided as an additional feature on our system."

16) Please amend Para [0097] as follows: "Our Bluetooth/RF sensor is based on a ~~long range~~ **long-range** version of the popular short distance communication.

17) Please amend Para [00102] as follows: "The option of downloading a ~~floor-plan~~ **floor plan** can be exercised either remotely or locally."

18) Please amend Para [00108] as follows: "Parking detector, ~~The~~ **the** empty parking spaces will be displayed inside a graphical real-time floating omni-directional circular display in such way that the "user" will intuitively determine the distance and the direction to the empty parking spaces."

19) Please amend Para [00114] as follows: "Or the parking data can be displayed ~~as~~ **by** ~~an~~ **a** clear, heads-up display on the driver's windshield for the next generation parking detector."

20) Please amend Para [00116] as follows: "Our solution is designed for global use and is not limited to parking garage or parking meters spaces~~,~~**.** Our innovation can be implemented anywhere, in any place designated as parking space . . . !"

21) Please amend Para [00122] as follows: "FIG. 1 is **an** illustration of the parking detector floating overlay display method in accordance with the present invention."

22) Please amend Para [00123] as follows: "FIG. 2 is **an** illustration of the parking detector on a cellular phone in accordance with the present invention."

23) Please amend Para [00124] as follows: "FIG. 3 is **an** illustration of the parking detector on a car-navigation in accordance with the present invention."

24) Please amend Para [00125] as follows: "FIG. 4 is **an** illustration of the parking detection system environment in accordance with the present invention."

Google Ex. 1021, p. 084

25) Please amend Para [00128] as follows: "Referring now to the figures of the drawings in details and first particularly to FIG. 1-5 thereof. There is shown ~~a~~ **an** illustration of the method and system to detect and navigate to empty parking spaces."

26) Please amend Para [00136] as follows: "A very small RF sensor installed in each parking space, any place designated as parking space ether parking meter, parking garage, street parking inside or outside public or commercial-. ~~the~~ **The** sensor can be RFID (long range type), a long range Bluetooth a ~~wifi~~ **WiFi** or any RF type. It broadcast**s** a unique ID by wireless that identifies the location of the parking space 140 and 150 (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcast it to be ~~pick up~~ **received** by the parking detector 100."

27) Please amend Para [00139] as follows: "We utilize the cellular phone 210 only as a Bluetooth enable device and the application overlay floating circular display 100 parking detector will run over ether GPS existing mapping or over a background of the area floor plan 230 that ~~can~~ **can** be ether download before access the parking area to plan ahead or download via Bluetooth or ~~wifi~~ **WiFi** at the entrance to the parking area."

28) Please amend Para [00143] as follows: "Turning now to FIG. 3. It is show the floating overlay parking detector 100 on a car navigation system 310 as an interface to the existing navigation system. The floating overlay parking detector 100 on the car navigation 310 as a Bluetooth interface, there is no need for cellular communication or any Internet web communication or any central system nor any access to a database."

29) Please amend Para [00144] as follows: "**The** ~~the~~ overlay floating circular display 100 parking detector will run over ether GPS existing mapping or over a background of the area floor plan 330 that cab be ether download before access the parking area to plan ahead or download via Bluetooth or ~~wifi~~ **WiFi** at the entrance to the parking area."

30) Please amend Para [00146] as follows: "Referring to FIG. 4~~.~~**,** **the** ~~it's~~ ~~show~~ illustration of the detection system ~~include~~ **includes** the parking sensors 410**,** ~~The~~ **the** sensors 410, **and**

Google Ex. 1021, p. 085

an ~~**An**~~ RF motion sensor network that detects where the vacancy in a parking space is available."

31) Please amend Para [00147] as follows: "

32) Please amend Para [00147] as follows: "…a long range Bluetooth a ~~**wifi**~~ **WiFi** or any RF type. It broadcast a unique ID by wireless that identifies the location of the parking space (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcast it to be ~~**piek up**~~ **received** by the parking detector application on ether cellular phone 210 or car navigation 310 in-car 420 navigation system."

33) Please amend Para [00148] as follows: "Our solution is designed for global use and is not limited to parking garage or parking meters spaces, ~~**our**~~ **the present** innovation can be implemented anywhere, in any place designated as parking space . . . !"

34) Please amend Para [00154] as follows: "Or the parking data can be displayed as ~~**an**~~ **a** clear, heads-up display on the driver's windshield of his car 420 for the next generation parking detector."

35) Please amend Para [00163] as follows: "Turning to FIG. 5~~.~~**,** **the illustration** show**s** the method of ~~**broadcasint**~~ **broadcasting** the empty parking space information to the parking detectors in the area."

A complete annotated portion of the specification is submitted herewith and properly identified in the top margin accordingly.

A complete substitute specification is submitted herewith and properly identified in the top margin accordingly.

Google Ex. 1021, p. 086

IN THE CLAIMS

Please amend **Claims 1, 6, 8-11, 14-16, 18-22, and 24** in this amendment.

Please cancel **Claim 2-5 and 7** in this amendment.

Please add **Claims 25-26** in this amendment.

No claims were withdrawn in this amendment.

An amended version of the pending claims starts on page 09 in accordance with 37 CFR § 1.121(c)(3) as follows: The status of each Claim is indicated adjacent the Claim Number in accordance with the proper status identifiers: (Original), (Currently Amended), (Canceled), (Previously presented), (New), (Not Entered), (Withdrawn), and (Withdrawn-currently amended) in accordance with 37 CFR § 1.121. Any changes to the claims are shown by strikethrough (for deleted matter) and underlining (for added matter, excluding New Claims).

Thereafter, starting on a separate page, (Page 15), is the Remarks portion in accordance with 37 CFR § 1.111.

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Claim Listing:

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

Claim 1. (Currently amended) A wireless parking detector, comprising: ~~a radio frequency (RF) sensor for detecting an empty parking space and scanning the RF sensor wirelessly directly from the car navigating and or cellular phone.~~

a series of parking space status sensors, each parking space status sensor comprising a RF transmitter and a vehicle sensor, each parking space status sensor comprising a unique sensor broadcast name, each parking space status sensor being positioned proximate a unique parking spot, wherein the parking space status sensor monitors a vacancy status of the parking space, and the RF transmitter emits repeated broadcasts of the unique sensor broadcast name only when the status of the parking space is determined as vacant; and

a monitoring system comprising parking space monitoring software and a signal receiver, wherein the signal receiver is configured to scan for all of the unique sensor broadcast names; and parking space monitoring software references each unique sensor broadcast name to a parking space identified on a location map,

wherein the software determines the location of each empty parking space associated with each received unique sensor broadcast names from the scan and displays the each empty parking locations.

Claims 2-5. (Canceled)

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Claim 6. (Currently amended) The ~~wireless sensor~~ wireless parking detector according to ~~claim 5~~claim 1, wherein the parking ID to includes known address, price, and type of parking selected from the group consisting normal parking and handicap parking.

Claim 7. (Canceled)

Claim 8. (Currently amended) The method according to ~~claim 7~~ claim 25, which further comprises floating the empty parking space information over an existing floor plan.

Claim 9. (Currently amended) The method according to ~~claim 7~~ claim 25, wherein the empty parking space information is displayed as a stand alone application without background mapping.

Claim 10. (Currently amended) The method according to ~~claim 7~~ claim 25, which further comprises displaying the empty parking space information over at least one of a facility map, an area map, ~~or~~ and a floor plan downloaded to the display device.

Claim 11. (Currently amended) The method according to ~~claim 7~~ claim 25, wherein the empty parking space information pertains to navigating a current parking area.

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Claim 12. (Original) The method according to claim 11, which further comprises determining a current position of a vehicle based on known positions of the wireless parking sensors to the vehicle.

Claim 13. (Original) The method according to claim 12, which further comprises navigating to the current parking area using a mapping facility.

Claim 14. (Currently amended) The method according to ~~claim 7~~ claim 25, which further comprises producing a parking ticket with an exact location to a park space for a vehicle, the parking ticket being distributed by a parking garage.

Claim 15. (Currently amended) The method according to ~~claim 7~~ claim 25, which further comprises paying electronically the parking sensor which replaces a parking meter.

Claim 16. (Currently amended) The method according to ~~claim 7~~ claim 25, wherein the parking sensor automatically debits the display device.

Claim 17. (Original) The method according to claim 12, which further comprises performing the determining step without an aid of a global positioning satellite system or central database system.

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Claim 18. (Currently amended) The method according to ~~claim 7~~ claim 25, which further comprises: registering an exact parking place location of a vehicle on the display device; and subsequently allow ~~Return To Parking~~ return to parking navigating to where the vehicle is parked.

Claim 19. (Original) The method according to claim 18, which further comprises displaying on the display device a mapping between a current position and the exact parking place location of the vehicle.

Claim 20. (Currently amended) The method according to ~~claim 7~~ claim 25, which further comprises displaying additional information of an available parking space as a waypoint.

Claim 21. (Currently amended) The method according to ~~claim 7~~ claim 25, which further comprises providing the display device with an omni directional circular display.

Claim 22. (Currently amended) The method according to ~~claim 7~~ claim 25, which further comprises forming the display device as a head-up display device projecting onto a vehicle windshield and displaying the empty parking space information via the head-up device.

Claim 23. (Original) The method according to claim 21, which further comprises determining a distance to and a direction to an empty parking space with the omni directional circular display.

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Claim 24. (Currently amended) The method according to ~~claim 7~~ claim 25, which further comprises providing the display device with application software for displaying pre-loaded area maps or parking facility floor plans.

Claim 25. (New) A method of identifying available parking spots, the method comprising the steps of:

deploying a series of parking space status sensors, each parking space status sensors having a unique sensor broadcast name and is positioned and mapped respective to a unique parking space;

monitoring the status of a series of parking space;

determining the vacancy of each parking space being monitored;

emitting repeat broadcasts of the respective unique sensor broadcast name of each parking space only when the respective parking space is determined to be vacant;

scanning to receive each of the emitted respective unique sensor broadcast names;

determining each empty parking space from the emitted respective unique sensor broadcast names; and

communicating each empty parking space to an end user via a display device.

Claim 26. (New) The wireless parking detector according to claim 1, the RF transmitter transmits in accordance with a Bluetooth protocol.

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Claim 27. (New) The wireless parking detector according to claim 1, further comprising a cellular telephone, wherein the parking space monitoring software, signal receiver, and display are integrated into the cellular telephone.

Claim 28. (New) The wireless parking detector according to claim 1, wherein the parking space monitoring software, signal receiver, and display are integrated into a user interface of a vehicle.

Claim 29. (New) The wireless parking detector according to claim 1, further comprising a return to parking feature, wherein the return to parking feature saves the location in which a user's vehicle is parked.

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REMARKS

Claims 1, 6, and 8-26 remain pending in the subject application.

Claims 1, 6, 8-11, 14-16, 18-22, and 24 have been amended in this correspondence.

Claim 2-5 and 7 have been cancelled in this correspondence.

Claims 25 through 29 have been added in this correspondence.

No Claims have been withdrawn in this correspondence.

Detailed Action

Claim Objections

1. **Claim 11** needs a period at the end as prescribed by MPEP § 608.01 (m). See Fressola v. Manbeck.

2. **Claims 7 and 18** are objected to because of the following informalities: in **Claim 7**, "Scanning" (line 1) should be - -scanning- -; at line 4, "scanining" appears to be - - scanning- -; and at line 5, "Directly" should be - -directly- -; in **Claim 18**, line 3, "Return To Parking" should be - -return to parking- -. Appropriate correction is required.

3. Applicant has amended **Claims 11 and 18** as directed by the Examiner. Applicant has canceled **Claim 7**, wherein **Claim 7** is rewritten as new **Claim 25**. Applicant earnestly believes the objection to **Claims 11 and 18** have been overcome by amendments submitted herein.

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Claim Rejections

Claim Rejections - 35 USC § 112

3. The Examiner has rejected **Claims 2 and 7 - 24** under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3A. (Examiner's position) Regarding **Claim 2**, "said the parking beacon (tag) transmitter' lacks clear antecedent basis.

3a. (Applicant's remarks) Applicant has canceled **Claim 2** in this correspondence.

3B. (Examiner's position) Regarding **Claim 7**, the phrase "such as" (line 6) renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP S 2173.05(d).

3b. (Applicant's remarks) Applicant has canceled **Claim 7** in this correspondence. **Claim 7** has been rewritten as new **Claim 25**. The phrase "such as" has been omitted from the new, rewritten claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351 (a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21 (2) of such treaty in the English language.

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5A. (Examiner's position) The Examiner has rejected **Claims 1 - 13, 18 - 20, and 24** under 35 U.S.C. § 102(e) as being anticipated by USP 6,970,101 B1 to Squire et al ("Squire").

Regarding the above claims, Squire teaches a wireless parking detector comprising a RF sensor (20) for detecting an empty parking space (col. 2, lines 30 – 43 at least) and wirelessly scanning directly from a car navigating or phone (see figs. 3-4; col. 3, lines 32 - 41; col. 4, lines 25 - 29; col. 5, lines 47 and 62 at least) - the sensor being installed in indoor (mall) parking space (see figs. 1-2, 4) - the parking data including data 10 (figs. 4-5) - the data including normal or handicap parking (col. 6, lines 53 - 57; col. 8, lines 46 - 48; col. 10, lines 18- 30; col. 12, lines 16 - 17 at least).

Squire further teaches further displaying parking availability information on at least one display device (50) selected from the group consisting of a mobile phone, a Bluetooth™ enabled device (figs. 3 - 4, 7, 9; col. 8, lines 25 - 32 and col. 12, lines 10-15), receiving parking space data form a parking sensor - the availability being selected from a normal parking and handicap parking (col. 6, lines 47 - 57; col. 8, line 46 - 54;, displaying, using application software, empty parking space information as a floating overlay on the display device (50) without background mapping, the parking space being floated over an existing floor plan (see figs. 1 -2), the parking space location of a vehicle being registered (by computer 22; see fig. 4), additional information being available on a parking space as a waypoint (additional information regarding restaurants, stores, car size [compact], etc.).

5a. (Applicant's Remarks) **Claims 1 and 25** (rewritten from Canceled Independent **Claim 7**) are Independent Claims.

Applicant respectfully asserts that the cited references fail to teach or suggest all the elements of the claimed invention. As the Examiner is aware, "all words in a claim must be considered in judging the patentability of that claim against the prior art." M.P.E.P. § 2143.03 (citing *In re Wilson,* 424 F.2d 1382, 1385, 165 US.P.Q. 494,496 (C.C.P.A. 1970). Moreover, in

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order to establish a *prima facie* case of obviousness, the references alone or in combination must teach or suggest all the limitations of Applicant's claimed invention. *In re Vaeck,* 947 F.2d 488, 20 US.P.Q.2d 1438 (Fed. Cir. 1991).

Applicant respectfully asserts that the Examiner has failed to identify a teaching, suggestion or motivation for one of ordinary skill in the art to create a parking assistance apparatus or method, as recited in Claims 1 or 25 as amended.

In particular, Squire fails to teach a continuous transmission of a unique sensor broadcast names when the parking space is vacant. Squire utilizes bi-directional communication. The claimed invention provides several significant benefits. First, the use of a broadcasting concept allows any device having the same protocol to scan / monitor an area for signals. The device then receives the names signals and can interpret them WITHOUT (with emphasis) the need to transmit a signal specifically to the device. This allows for the integration or use of the system with ANY (with emphasis) other device having similar protocol.

An example is presented to help ensure the Examiner understands the benefit of this concept. When a person is using a wireless Network access, such as WiFi, the person's WiFi scans to determine what networks are available. The networks are transmitting a network name. The wireless system identifies the network names and presents them to the user. The user can then select the network to begin communications therewith. Similarly, the claimed invention scans for the list of names transmitted by the space sensor. The system does not need to know any information to interrogate the sensors. This reduces time, enhances the overall compatibility, and minimizes any risk of security breaches.

Since the transmitters only transmit the signal when the parking space is empty, the system only needs to receive the space name and determine the location from a reference table. This minimizes the complexity of the system.

Support for the amendment is provided in specification as follows:

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In para [00103] – **The parking sensors broadcast their signal continuously and any of our parking detectors will detect them and display the data on the "user" device in an easy to understand method."**

In para [00136] "**It broadcast a unique ID by wireless that identifies the location of the parking space (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcast it to be received by the parking detector 100."**

Applicant earnestly believes the rejection of Independent **Claims 1 and 7** (rewritten as New **Claim 25**) under 35 U.S.C. § 102(e) as being anticipated by Squire, et al. has been overcome by amendments and remarks submitted herein. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claims 1 and 7** (rewritten as New **Claim 25**) under 35 U.S.C. § 102(e) as being anticipated by Squire, et al.

Claims 2-5 and 7 have been canceled. **Claim 7** has been rewritten as **Claim 25**. **Claim 6** depends from Independent **Claim 1**. **Claims 8-13, 18-20 and 24** depend from New Independent **Claim 25**. Applicants have previously argued the rejection of **Claims 1 and 7** (rewritten as New **Claim 25**) in this section (section 5a) above. Due to the dependency from **Claims 1 and 25**, respectively, Applicants earnestly believe **Claims 8-13, 18-20 and 24** are also considered nonobvious in view of Squire, et al. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claims 8-13, 18-20 and 24** under 35 U.S.C. § 102(e) as being anticipated by Squire, et al.

Claim Rejections - 35 USC § 103

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

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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7. (Examiner's Position) The Examiner rejected **Claims 14 - 17 and 21 - 23** under 35 U.S.C. § 103(a) as being unpatentable over Squire ('101) in view of USP 5,910,782 to Schmitt et al ("Schmitt").

Regarding **Claims 14 - 17 and 21 - 23**, Squire further teaches all of the limitations, but is somewhat silent on the vehicle on-board navigation system with positional data, current position of the vehicle, parking ticket, electronic payment/debit.

However, Schmitt teaches, in the same field of endeavor of displaying parking availability, a vehicle on-board navigation system (fig. 1; title; abstract at least) with positional data, current position of the vehicle by triangulation calculation (using GPS technology as noted in col. 2, lines 59 - 63 at least), parking ticket, electronic payment/debit (col. 61 - 63; col. 2, line 64 - col. 3, line 22 at least).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Squire's teaching by including a vehicle on-board navigation system with positional data, current position of the vehicle by triangulation calculation, parking ticket, electronic payment/debit as evidenced by Schmitt in order to enhance guiding a vehicle to available parking spaces in a timely manner.

As to providing the display device with an omni-directional circular display or forming the display as head-up display such would have been obvious to one of ordinary skill in the art at the time of the invention as involving routine skill in the art.

8. (Applicant' Remarks) Claims 14 - 17 and 21 – 23 depend from New Independent **Claim 25**.

Applicants have previously argued the rejection of **Claim 7** (rewritten as New **Claim 25**) in section 5a above. Due to the dependency from **Claim 25**, Applicants earnestly believe **Claims 14 - 17 and 21 - 23** are also considered nonobvious in view of Squire, et al. and Schmitt, et al. Applicant respectfully requests the Examiner reconsider and withdraw the rejection of **Claims 8-**

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13, 18-20 and 24 under 35 U.S.C. § 103(a) as being anticipated by Squire, et al. in view of Schmitt, et al.

Additionally, Applicant traverses the Examiner's claim of "It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Squire's teaching by including a vehicle on-board navigation system with positional data, current position of the vehicle by triangulation calculation, parking ticket, electronic payment/debit as evidenced by Schmitt in order to enhance guiding a vehicle to available parking spaces in a timely manner." Applicant respectfully requests the Examiner to identify a reference combining the vehicle on-board navigation system with positional data, current position of the vehicle by triangulation calculation, parking ticket, electronic payment/debit using external data to create the position data and use of vehicle triangulation where in the vehicle is located in a parking garage at the time. The claims of the current system are capable of working under cover, whereas a GPS based system is limited.

Applicant traverses the Examiner's claim of "As to providing the display device with an omni-directional circular display or forming the display as head-up display such would have been obvious to one of ordinary skill in the art at the time of the invention as involving routine skill in the art." Applicant respectfully requests the Examiner to identify a reference providing the display device with an omni-directional circular display that motivates a combination with Squire, et al. and or Schmitt, et al.

New Claims

9. (Applicant' Remarks) New **Claims 26-29** depend from Independent **Claim 1**. Applicant earnestly believes the rejection of **Claim 1** has been overcome by amendment and remarks submitted in Section 5a herein. Applicant therefore earnestly believe that new **Claims 26-29** are allowable based upon pendency from an allowable claim. The claims are supported in the specification, more specifically as follows:

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Claim 26. The wireless parking detector according to claim 1, the RF transmitter transmits in accordance with a Bluetooth protocol. – In Para [0075] "The sensor can be RFID (long range type), a long range Bluetooth, a WiFi or any RF type. It broadcasts a unique ID by wireless that identifies the location of the parking space (unique parking ID, address, and price)."

Claim 27. (New) The wireless parking detector according to claim 1, further comprising a cellular telephone, wherein the parking space monitoring software, signal receiver, and display are integrated into the cellular telephone. – In Para [0076] "The parking detector, the parking detector (in a process of trade mark) will receive the broadcasting parking sensors in the area around the "user" with interface to his existing in-car navigation system and or his cellular telephone as an application that utilize the cellular phone Bluetooth device (no cellular communication or internet or database access needed) or any Bluetooth enable device that will run our parking detector application as a stand alone device."

Claim 28. (New) The wireless parking detector according to claim 1, wherein the parking space monitoring software, signal receiver, and display are integrated into a user interface of a vehicle. – In Para [0076] "The parking detector, the parking detector (in a process of trade mark) will receive the broadcasting parking sensors in the area around the "user" with interface to his existing in-car navigation system and or his cellular telephone as an application that utilize the cellular phone Bluetooth device (no cellular communication or internet or database access needed) or any Bluetooth enable device that will run our parking detector application as a stand alone device."

Claim 29. (New) The wireless parking detector according to claim 1, further comprising a return to parking feature, wherein the return to parking feature saves the location in which a user's vehicle is parked. – In Para [00115] "More over, our innovation can solve the "RTP" (Return to

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parking) problem, where many forget where they parked their car. The system has an option to save the location on the "cellular phone--parking detector" application, which will make it easy to locate the parked car."

Conclusions

Claims 1, 6, and 8-26 remain in the application. **Claims 1, 6, 8-11, 14-16, 18-22, and 24** have been amended herein. **Claim 2-5 and 7** has been canceled herein. **Claims 25 and 26** have been added herein.

The Subject FINAL OFFICE ACTION was mailed on September 29th, 2009. The Examiner provided a shortened statutory period of THREE (3) MONTHS. Applicant has responded on or before the SIX (6) MONTH anniversary of Monday, March 29th, 2010. Applicant earnestly believes the response requires a petition for a THREE (3) MONTH extension and the respective fee of $555 (small entity), both are submitted herewith.

Twenty-one (21) total claims, including three (3) Independent claims remain pending in this application. Applicant has previously paid for twenty-four (24) total claims and three (3) Independent claims. Therefore Applicant believes the claim fee is current and no excess claims fees are due resulting from this amendment.

Applicant has amended the Specification. Applicant has submitted an annotated version of the Specification. Additionally Applicant has submitted a complete, clean version as a substitute specification herewith, both versions being identified in the top margin accordingly.

Applicant asserts that the amendments to the specification, and the amendments to the claims, as well as the traverses above clearly show that the present claims are patentable over the cited references and therefore should be allowed. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

If the Examiner believes that there are any informalities that can be corrected by

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Examiner's amendment, a telephone call to the undersigned Attorney of Record is respectfully solicited.

Applicant believes the response is filed in a timely manner and that no fees are required with this correspondence. However, if any additional fees are required in connection with the filing of this paper, permission is given to charge account number 502683 in the name of Gold & Rizvi, P.A.

Respectfully submitted,
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System and Method of Detecting and Navigating To Empty Parking Spaces

Related Applications:

[0001] This application is a Non-Provisional Application, claiming ~~claims~~ the benefit of US Provisional application No. US60/670,097 filed April 12, 2005, which is incorporated herein in its entirety.

Field of the Invention:

[0002] This invention is directed generally to the field of location based navigation and, more particularly, to such systems and the method to be used in detecting and navigating to empty available parking spaces.

BACKGROUND OF THE INVENTION

~~[0002]~~[0003] Location based services are rapidly expanding. Outdoor location technologies are mainly based on GPS technologies. GPS does not perform properly indoors, and is not adequate, recently, as a result, indoor location systems are appearing on the market.

~~[0003]~~[0004] The need for a system such as ours stems from various market segments and applications. One example, in the market for integrated positioning and navigation systems using GPS receivers as their primary positioning technology, is the "Car navigator".

~~[0004]~~[0005] However, a major limitation of GPS is that uninterrupted satellite reception is not possible in many situations. Densely populated areas and radio-frequency-signal shadowed

locations, such as urban centers ("urban canyons"), generally do not allow proper operation of GPS, yet it is in these locations that the need is greatest.

[0005][0006] There is a clear need for a cost effective system that maintains performance indoors, in urban canyons and in city centers.

[0006][0007] Another important issue, GPS itself is susceptible to jamming and other man-made interference.

Description of GPS System.

[0007][0008] The Global Positioning System (GPS) is a satellite-based navigation and time transfer system developed by the U.S. Department of Defense. GPS serves marine, airborne and terrestrial users, both military and civilian. Specifically, GPS includes the Standard Positioning Service (SPS) that provides civilian users with 100 meter accuracy as to the location or position of the user. It also serves military users with the Precise Positioning Service that provides 20-meter accuracy for the user. Both of these services are available worldwide with no requirement for any local equipment.

View of GPS Limitations:

[0008][0009] First limitation of GPS is that upon activation the GPS receiver scans for signals from the GPS satellites. The unit must locate and receive signals from at least four satellites to be able to determine its location. This process of locating the satellites, receiving the data and achieving a position fix can take several minutes. This delay can be problematic for many GPS applications.

[0009][0010] Second limitation of GPS is that the receiver needs a clear view of the sky to successfully receive signals from the satellites, again under unfriendly RF conditions such as inside buildings, or in "urban canyons" or under shadows of high buildings, the GPS suffers

from multi-path effects and therefore shows poor performance, or none at all.

~~[0010]~~[0011] Third Limitation--limited accuracy: There's a problem of limited accuracy of civilian GPS signal. While knowing your position to within 50-200 feet anywhere on the planet is a major technological feat, it's still not accurate enough, to locate and navigate to an empty parking space, where each space measures about 10 feet, and most parking garages are located where the GPS is cannot work effectively.

~~[0011]~~[0012] Most of the navigation systems, such as the in-car navigation system, are based on GPS and have the aforementioned limitations.

~~[0012]~~[0013] Another significant factor adding to the limitations of the GPS based systems is the important role of map production; it is obvious that the user, driver, requires a map to be as detailed and as up-to-date as possible. However the existing maps used by the GPS based systems provide limited detail and the changes are not reflected on a timely basis

~~[0013]~~[0014] In this modern age when urban development is exploding, the lack of details and updates of the topographic maps and satellite images is critical; additionally and importantly, indoor location maps are not available at all for the GPS navigation systems.

Application:

~~[0014]~~[0015] In general, our system is based of applying machine-learning techniques to the task of inferring aspects of the user's state from a stream of input from sensors.

~~[0015]~~[0016] We have focused on indoor navigation, or navigation in crowded urban areas, where GPS based systems, due to lack of access to satellites or the GPS limitations detailed previously, cannot achieve the required results.

~~[0016]~~[0017] We have focused on the task of interactively guiding the user to a desired indoor destination.

~~[0017]~~[0018] Our system has a minimal need to know the user's location to carry out this task.

Examples of Indoor Applications:

~~[0018]~~[0019] The user may be looking for a certain store in a shopping mall, or a particular aisle in a department store.

~~[0019]~~[0020] The user may be looking for a certain conference room in a convention center, for a point of interest in an amusement park or for a point of interest in a museum.

~~[0020]~~[0021] The user may be looking for a train location in a station, or stops in a large subway or underground train station.

~~[0021]~~[0022] Or may just want to find available parking space.

Parking Detection and Navigation Application:

~~[0022]~~[0023] There is no easy way to find empty parking spaces in a busy city. Drivers usually either wastes time driving around the area looking for an open space, or abandons the search, paying a large fee to park in a garage, or to use a valet parking service. It would be very advantageous to be able to provide a driver looking for a parking space with Parking Detector, capable of identifying available, empty parking spaces in the driver's proximity, and with a competitive edge over someone without such a Parking Detector.

~~[0023]~~[0024] Every working day 105 Million drivers are looking for a place to park!

~~[0024]~~[0025] It is estimated that 40% of urban traffic is due to this "Search for parking a space."

~~[0025]~~[0026] The top 85 US cities face increasing congestion problems because of steady population growth and the lack of locations to build additional parking. Traffic congestion is

estimated to cost travelers in the 85 biggest US cities a whopping 3.5 billion hours a year, more than 50 hours a year per driver in major cities, almost a week of work.

~~[0026]~~[0027] Traffic and traffic congestion are two main reasons for pollution, and vehicle emissions contribute significantly to the "green house effect".

~~[0027]~~[0028] In our society where time, convenience and comfort are precious commodities, parking is a major perk, or major headache.

~~[0028]~~[0029] Our "Parking Detection System" provides the answer to the most demanding need of any driver, "Where can I park?"

~~[0029]~~[0030] With the implementation of our system, navigating and detecting available parking spaces will become part of the information revolution.

~~[0030]~~[0031] Our system, a network of self organizing sensors will enable municipalities and other parking authorities to easily identify, exploit and manage revenue opportunities while at the same time providing better service at a lower operating cost.

~~[0031]~~[0032] With our system, drivers will save time, reduce the frustration of hunting for parking spaces and also will save money on gas usage and car maintenance costs.

~~[0032]~~[0033] By using and modifying existing technology, our system will integrate easily with other transportation and communication systems.

Reference to Prior Arts:

~~[0033]~~[0034] Despite the problems encountered by vehicle operators at parking facilities, most existing parking monitoring systems focus on collecting information for management. Some prior art systems employ sensors at entrances and exits to parking facilities or sections of such facilities (See U.S. Pat. No. 3,130,298 to Schwarz). These sensors trigger a counter to determine the number of cars in the monitored area by subtracting the number of cars leaving the area from

those that have entered. At least one of these monitoring systems also engages a timer to determine the aggregate usage time of the facility by summing the total time from the entry of the cars to their departure (See U.S. Pat. No. 3,867,615 to Sioufi). These systems profess to be useful in monitoring the usage of the parking facility.

~~[0034]~~[0035] Prior Art curbside parking monitoring systems have been coupled with centralized signals which indicate general areas where drivers may find a curbside parking space (See U.S. Pat. Nos. 3,114,128 and 3,166,732 to Ljungman). Upon sensing that a space adjacent a parking meter is vacant, the system signals drivers from a signpost at an intersection of the city block along which the parking space is vacant. The signal appears in a binary yes or no stating that one or more parking spaces are available in the adjacent block-long area. However, because the driver seeing a parking available signal is not advised of the number and specific location of parking spaces that are available in that block, the vehicle operator may proceed to the indicated location to find that a single available space has already been occupied or that the space will not accommodate his vehicle. In either situation, the binary availability signal may lead the vehicle operator on a fruitless quest.

~~[0035]~~[0036] Another monitoring system for a parking facility compares the number of cars within a designated area (determined by counting cars entering minus cars departing the area) with the number of spaces within that area. When the net number of cars equals the number of spaces, the system registers that the area is completely full and signals drivers to proceed to the next area (See U.S. Pat. No. 3,158,836 to McCauley). Unfortunately, such systems again only yield a binary yes or no signal to the drivers. Even if an area contains only one available space, even if the space is obstructed, will not accommodate the driver's car, or is otherwise undesirable, a driver still will be lead to that area.

~~[0036]~~[0037] These prior art systems are of only limited help to vehicle operators and do not resolve many concerns associated with parking an automobile.

~~[0037]~~[0038] U.S. Pat. No. 5,293,163 to Kakihara, et al., entitled, "Navigation Apparatus for Vehicles", describes a system for finding garages or other parking facilities with available parking spaces. It provides for the display of available parking information in map format. This

vehicle navigational system patent does not address the problem of locating available on-street parking. Instead, it addresses the problem of locating parking lots with available spaces. Parking lots in congested city areas are not very cost effective, and they may not be in close proximity to the driver's destination. The patent does not direct drivers directly to an available metered space, a less expensive alternative, but simply to a large parking lot where they will have to search for an available space. In addition, the Kakihara map display only directs the driver as far as a parking facility. The driver still must navigate around the parking facility to locate an available space.

[0038][0039] U.S. Pat. No. 5,432,508 to Jackson, entitled, "Technique for Facilitating and Monitoring Vehicle Parking", describes a scheme for finding available parking spaces in garages and other parking facilities. It provides for the display of available parking information at the entrance of a garage and makes a provision for a light source to be mounted above a parking space to indicate its availability. Remote access to the data is provided by a dial-up telecommunication interface. Because the technique described operates over a wireline medium, it does not lend itself to being easily deployed in a wide area. Also, because parking information is never provided to any device within a vehicle, drivers still need to navigate through a garage to locate available spaces.

[0039][0040] Parking meters with sensors, parking meters with transmitters, and navigational equipment receiving and displaying external information are well known in the art. U.S. Pat. No. 5,442,348 entitled, "Computerized Parking Meter", for example, describes a parking meter utilizing an ultrasonic transducer to detect when a car is occupying a parking space. Similarly, U.S. Pat. No. 5,454,461, entitled, "Electronic Parking Meter and System", describes a parking meter utilizing a sonar transducer for parked vehicle detection and radio means for receiving billing information.

[0040][0041] At present, there is no on-board vehicle navigational system that delivers accurate and real time parking space information directly from the vehicle or ether portable phone application upon entering a specific geographic area.

Accurate Navigation

~~[0041]~~[0042] U.S. Pat. No. 5,504,482 to Schreder describes an automobile equipped with an inertial and satellite navigation system as well as a local area digitized street map. The main use of this patent is for route guidance in the presence of traffic jams, etc. Schreder describes how information as to the state of the traffic on a highway can be transmitted and utilized by a properly equipped vehicle to change the route the driver would take in going to his destination. Schreder does not disclose sub-meter vehicle location accuracy determination

Vehicle Location

~~[0042]~~[0043] U.S. Pat. No. 5,272,483 to Kato describes an automobile navigation system. This invention attempts to correct for the inaccuracies in the GPS system through the use of an inertial guidance, geomagnetic sensor, or vehicle crank shaft speed sensor. However, it is unclear as to whether the second position system is actually more accurate than the GPS system. This combined system, however, cannot be used for sub-meter positioning of an automobile.

~~[0043]~~[0044] U.S. Pat. No. 5,383,127 to Shibata uses map matching algorithms to correct for errors in the GPS navigational system to provide a more accurate indication of where the vehicle is or, in particular, on what road the vehicle is. This procedure does not give sub-meter accuracy. Its main purpose is for navigation and, in particular, in determining the road on which the vehicle is traveling.

~~[0044]~~[0045] U.S. Pat. No. 5,416,712 to Geier, et al. relates generally to navigation systems and more specifically to global positioning systems that use dead reckoning apparatus to fill in as backup during periods of GPS shadowing such as occur amongst obstacles, e.g., tall buildings in large cities. This patent shows a method of optimally combining the information available from GPS even when less than 3 or 4 satellites are available with information from a low-cost, inertial gyro, having errors that range from 1-5%. This patent provides an excellent analysis of how to use a modified Kalman filter to optimally use the available information.

~~[0045]~~[0046] U.S. Pat. No. 5,606,506 to Kyrtsos provides a good background of the GPS satellite system. It discloses a method for improving the accuracy of the GPS system using an inertial guidance system. This is based on the fact that the GPS signals used by Kyrtsos do not contain a differential correction and the selective access feature is on Locating a vacant parking space is an ordeal that causes frustration for many commuters. Even if a commuter pays to enter a parking lot, valuable time is consumed searching for a parking space within the parking lot. It seems that parking lots that service hospitals, airports, mass transit stations, entertainment forums, shopping malls and the like are always the most crowded, when time is the most crucial. As urban and suburban regions become more populated, finding a vacant parking space will become increasingly difficult for commuters.

~~[0046]~~[0047] U.S. Pat. No. 5,910,782 to Schmitt et al. ('782 patent) discloses a system for finding available on-street parking using an on-board vehicle navigation system and parking meters equipped with sensing devices. According to the '782 patent, real time metered parking space information can be accessed from a central location or directly by a vehicle, upon entering a specific geographic area.

~~[0047]~~[0048] U.S. Pat. No. 5,940,481 to Zeitman ('481 patent) discloses a parking management control system used to report parking, monitor parking and reserve parking spaces. According to the '481 patent, a user reports parking in a particular parking facility to a central control unit using a personal non-dedicated mobile communications device. The central control unit then confirms whether parking in the particular parking facility is authorized or not. The central control unit also generates a report indicating which parking facilities are supposed to be vacant for law enforcement officials so that unauthorized parking can be ticketed. `The `481 patent also discloses that a user can reserve a desired parking facility by selecting a desired parking facility from a map provided from the central control unit. If a potential user, other than the registered user, communicates a request to park in the reserved parking facility, the control unit transmits a response to the potential user indicating that the parking facility is reserved and not authorized for use.

~~[0048]~~[0049] At present, however, no prior art device utilizes the capabilities to display a real-

time representation of an available parking spaces directly from the sensors without central system. And without using a GPS system directly to the "user" driver. Also most of them are for the parking garage or solutions to parking meters area when our system is for any places designate as parking space, ether in-door, out door, public or private. Our system based on sensors that detect the empty space where most of the other detect the car . . .

~~[0049]~~[0050] Other depends on a request to be send to a central system or a database for a parking where our system is a direct parking detector from the sensors.

~~[0050]~~[0051] Again, most of the existing prior arts are base ether on a GPS system or ether the existing car navigator (depend on a GPS to) ## And the existing mapping that they use has the same limitation as describe before and therefore practically can't be implements and work.

~~[0051]~~[0052] We believe that interface to the internet can be a solution only for a remote planning and not a local solution where the driver is looking for a parking NOW!

~~[0052]~~[0053] We believe that our system method bridge the gap between the GPS based navigation and the existing system and allow to a complete solution.

Project in Parking:

~~[0053]~~[0054] XM Radio in conjunction with partners NU-Metrics inc. and infoGation, introduce a "parkingLink" capability concept.

~~[0054]~~[0055] The system shows the actual number of spaces available at designated parking facilities on vehicle navigation map, and uses color-keyed icons to indicate the percentage availability of the facility. The driver still must navigate around and inside the parking facility to locate an available space.

~~[0055]~~[0056] Parkingcarma from ACME Innovation, that is based on sensors that count the cars driving in and out of the parking facility and inform drivers via a cell phone call, or by an electronic sign, or over the internet, regarding the availability in the parking garage. The driver

still must navigate around and inside the parking facility to locate an available space.

[0056][0057] Other parking projects exist but they do not approach our innovation in ability to deliver a complete solution to the parking problem. Other projects address the issue from the perspective of a parking garage and do not consider street parking, nor are they really concerned to facilitate the location of an empty space inside their garage. They do not provide the driver with the ability to compare prices in the vicinity. Nor do other projects contemplate the concept of a parking detector with a direct communication between the sensors and the "user" driver in real-time#

Indoor Location Technologies

[0057][0058] Various technologies are used for wireless indoor location. These may be classified in two aspects: The algorithm--i.e. the method of location used. The physical layer--i.e. the wireless technology used to communicate with the mobile device.

Location Methods

[0058][0059] The methods typically used in indoor location are "borrowed" from the outdoor GPS location methods inventory. Specifically, four types of methods are used indoor:

[0059][0060] Proximity Detection (PD), Received Signal Strength (RSSI), Time of arrival (TOA), and Angle of Arrival (AOA).

Proximity Detection (PD)

[0060][0061] This method relies upon a dense grid of antennas, each having a well-known position. When a mobile is somehow detected by a single antenna, it is considered to be collocated with it. When more than one antenna detects the mobile, it is considered to be

collocated with the one that receives the strongest signal.

[0061][0062] This method is relatively simple to implement. It can be implemented over different types of physical media. In particular, IR and RFID are based on this method.

Triangulation

[0062][0063] Triangulation takes PD a step further, in the sense that it is based on measuring the signal level measurements from each antenna (possibly by using a triangulation mechanism), with respect to each mobile device. Following that, mobile is located by using a triangulation algorithm. Like the PD method, triangulation is relatively simple to implement.

Time of Arrival (TOA)

[0063][0064] TOA is based on triggering the mobile devices to respond, and measuring the time it takes for the response to flyback to the antenna. The elapsed time represents the distance between the two. By using distances from few antennas, a mobile's position can be triangulated. TOA considered to be the most accurate method, because multipath effects can be filtered out, Yet, it is considerably more complex to implement, as it requires a modified hardware on the mobile side, as well as special modifications on the antenna side.

Angle of Arrival (AOA)

[0064][0065] AOA is based on finding the direction of maximal signal intensity for each antenna-device pair. By finding the intersection of few such direction vectors, a mobile's position can be estimated AOA is considerably less accurate than TOA, due to limited angular resolution and the fact that indoor much of the signal is reflected. Also, AOA antennas are more complex, as they require multi-section, highly directional antennas, and multiple RF circuitry.

WLAN (IEEE 802.11b)

~~[0065]~~[0066] This midrange wireless local networking standard, operating in the 2.4 GHz ISM band, has become very popular in public hotspots and enterprise locations during the last few years. With a typical gross bitrate of 11 Mbps and a range of 50-100 m, IEEE 802.11b is currently the dominant local wireless networking standard. It is therefore appealing to use an existing WLAN infrastructure for indoor location as well, by adding a location server. Such solutions do exist in the market, providing an accuracy of .about.2 m. One limitation of such systems is the fact that WLAN tags are relatively bulky and power hungry. Thus, such locators are mainly useful to locate WLAN enabled instruments, such as portable computers.

~~[0066]~~[0067] Note that in WLAN, antennas are actually part of access points (APs), through which devices communicate with the access network. This is also the case with Bluetooth.

Bluetooth (IEEE 802.15)

~~[0067]~~[0068] Bluetooth is a newer wireless local networking standard, that operates in the 2.4 GHz ISM band. Compared to WLAN, the gross bitrate is lower (1 Mbps), and the range is shorter (typically 10-15 m, though there are Tags with a range of over 300 feet). On the other hand, Bluetooth is a "lighter" standard, highly ubiquitous (embedded in most phones, PDAs, PC peripherals, etc.) and supports, in addition to IP, several other networking services. Notably, Bluetooth supports serial port emulation, voice, and various types of object exchange.

~~[0068]~~[0069] Bluetooth tags are small, pocketsize transceivers.

~~[0069]~~[0070] Every Bluetooth device's tag has a unique ID. This ID can be used for locating the tag.

SUMMARY OF THE INVENTION

[0070][0071] In accordance with the present invention, it is our Project's objectives:

[0071][0072] Our system is not a location and tracking system as offered by most other systems; it is a navigation method based on the following unique characteristics:

[0072][0073] Most locations, buildings, malls, stores, museums, parks, city centers, subways, railways, etc., already have their own basic floor-plans. Our sensor net, and sensor tags in an indoor /outdoor navigation situation, replace the satellite in the GPS based system to calculate and locate the "user" track. Our innovation had 3 major parts: the sensors, the parking detector and the special method to display it on.

[0073][0074] The sensors, An RF motion sensor network that detects where the vacancy in a parking space is available.

[0074][0075] A very small RF sensor installed in each parking space, any place designated as parking space ether parking meter, parking garage, street parking inside or outside public or commercial .the sensor can be RFID (long range type), a long range Bluetooth a wifi or any RF type. It broadcast a unique ID by wireless that identifies the location of the parking space (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcast it to be pick up by the parking detector. The system can generate a parking ticket (e.g. for a parking garage) with the exact free parking space. Additional lens/screens for information can be installed at the corners of the parking lines--assisting drivers to locate available parking space. Similar lens/screens can be installed on street corners, open parking garages or on or for parking meters for drivers' guidance.

[0075][0076] The parking detector, the parking detector (in a process of trade mark) will receive the broadcasting parking sensors in the area around the "user" with interface to his existing in-car navigation system and or his cellular telephone as an application that utilize the cellular phone Bluetooth device (no cellular communication or internet or database access needed) or any Bluetooth enable device that will run our parking detector application as a stand alone device.

~~[0076]~~[0077] The display method is our unique way to bridge the existing devices like car navigation and Bluetooth devices and existing GPS mapping with the limitation that describe before with a simple application method, In a cellular phone application or in any other device Bluetooth devices or in the existing in-car navigation, we will provide our overlay add-up display method as an add-on to the existing navigation system as a real-time floating overlay omni directional circular display to overcome the limitations of GPS based systems and the existing mapping systems.

~~[0077]~~[0078] The overlay add-up device/display can work even without mapping at all, a VOR like add-up display will show the available parking spots in the immediate area without the need for a mapping background; mapping can be offered as an additional service. No regenerating of mapping is necessary.

~~[0078]~~[0079] Another option is to download a the floor map containing destination maps from a remote location, internet or destination guide--parking guide over the web as a new way of planning a route and navigating at the destination. Our navigation system method will enable remote navigation based on the downloaded local floor-plan, or locally, when the location's floor plan can be downloaded at the destination. An example of this would be at the entrance of the parking garage, shopping mall, department store, amusement park, museum or the city down town area.

~~[0079]~~[0080] Our system is based on a network of sensors that can be deployed anywhere, not just in parking lots or parking garages.

~~[0080]~~[0081] The System is accurate to within 10 feet, well ahead of the navigation and GPS [0080] The system can work inside a building whereas GPS cannot.

~~[0081]~~[0082] Local detection is obtained via popular Bluetooth interface.

~~[0082]~~[0083] The system provides information about each parking space's availability, including information about the price and type of space. Example: regular, handicap etc.

~~[0083]~~[0084] The system overcomes the anxiety of "Where will I park" (or return to parking

RTP) by providing the ability to locate a space in advance from your Bluetooth enabled device or your cell phone with our parking detector application.

~~[0084]~~[0085] The system can become the "Next generation parking meter".

~~[0085]~~[0086] Automatic payments can be handled via a system such as "Sun Pass" or other established account.

~~[0086]~~[0087] The system can afford established account/card holders (e.g. Sun Pass members) the option to make a parking reservation in advance.

~~[0087]~~[0088] The system can be an additional feature for city WI-FI . . . or being part of the deployment.

~~[0088]~~[0089] The system can serve as security add-on by providing authorities with information about a parked car in case of an emergency or security situation. No need to be in the area where the information about the parking cars can be transmitting to the authorities by remote.

~~[0089]~~[0090] Using the system, municipalities and parking facilities can manage better, compile helpful statistics and increase inventory control of the parking spaces resulting in better service and increased availability.

~~[0090]~~[0091] The system eases navigation to a parking space, without a navigation map or GPS. Mapping background can provided as an additional feature on our system.

~~[0091]~~[0092] The system provides "Local" detection as well as "Remote" detection.

~~[0092]~~[0093] The system allows easy implementation to existing networks. And parking system

~~[0093]~~[0094] The system saves gas, time, money and eases global warming.

~~[0094]~~[0095] Our system is based on a network of sensors that can be deployed anywhere, not just in parking lots or parking garages. The network can be deployed in any location designated for parking. The location can be private or commercial, street or mall, metered or not, free space

or charged.

~~[0095]~~[0096] Our parking detection method is unique. We base our system on RF sensor tags with interface to Bluetooth enabled devices This feature allows detection inside a building where GPS cannot work, as well as outside, with the capability to guide the driver to within 10 feet of the destination (i.e. a parking space), significantly better than any other navigation and GPS based systems on the market.

~~[0096]~~[0097] Our Bluetooth/RF sensor is based on a long range version of the popular short distance communication. This unique feature affords the user the ability to plan ahead where to park by obtaining data directly from the parking sensors and from remote by accessing the inventory of available parking spaces at the destination from data broadcast by Parking Guide.

~~[0097]~~[0098] One problem with In-Car navigation and or GPS mapping is that they cannot guide the user to closer then 50-200 feet, and only in open places, whereas our solution can provide accurate directions to within 6 to 10 feet, and to pinpoint the right parking space.

~~[0098]~~[0099] Our system will be a challenge to the navigation providers as well as the GPS providers as they cannot provide mapping or navigation inside the parking garage or lot, and in street parking the GPS/Navigation map cannot accurately locate the parking space.

~~[0099]~~[00100] Utilizing our patent pending innovation the available parking spaces in the vicinity around the "user" car are displayed on a floating overlay using either an existing installed navigation system or a stand alone device without any mapping at all.

~~[00100]~~[00101] [Navigation using the mapping or floor-plan of a location can be offered as an additional service, although it may not be necessary or needed, as the "user" will have easy way to figure out the distance and the direction to the empty parking spaces without GPS or any mapping . . . !

~~[00101]~~[00102] The option of downloading a floor-plan can be exercised either remotely or locally.

~~[00102]~~[00103] The parking sensors broadcast their signal continuously and any of our parking detectors will detect them and display the data on the "user" device in an easy to understand method.

~~[00103]~~[00104] With our innovation you have the parking information that you want, when you want it, where you want it . . . (and at a price you can afford . . .).

~~[00104]~~[00105] Once you are in the vicinity of your destination and you switch on your detector, you will automatically receive the parking information along your route (in all directions around you). No further action is required (there is no need to send a request or to access the internet/web or log on and search a database or central system . . . !!!).

~~[00105]~~[00106] Our unique approach does not need an internet bandwidth nor cellular communication at all . . .

~~[00106]~~[00107] And as a result there is no delay or waiting for communication and access time, the communication is instantaneous, directly between the sensors and the "user" parking detector.

~~[00107]~~[00108] Parking detector, The empty parking spaces will be displayed inside a graphical real-time floating omni-directional circular display in such way that the "user" will intuitively determine the distance and the direction to the empty parking spaces.

~~[00108]~~[00109] Additionally, each parking space will be shown with a simple color-coded to identify the type of the parking space, e.g. regular of handicap.

~~[00109]~~[00110] Each color-code display of an empty parking space can be accessed to obtain complete information about the parking space, e.g. price and automatic waypoint information.

~~[00110]~~[00111] Each circular line represents 50' feet in distance from the "user"/car.

~~[00111]~~[00112] This makes it easy for the "user" to calculate the distance to the parking space.

~~[00112]~~[00113] The ability to operate our innovation on an existing in-car navigation system, or using a cellular phone as an application--parking detector (no need for cellular connection), or a stand alone device, means the "user" can use it even if his car not equipped with a built-in navigation system.

~~[00113]~~[00114] Or the parking data can be displayed as an clear, heads-up display on the driver's windshield for the next generation parking detector.

~~[00114]~~[00115] More over, our innovation can solve the "RTP" (Return to parking) problem, where many forget where they parked their car. The system has an option to save the location on the "cellular phone--parking detector" application, which will make it easy to locate the parked car.

~~[00115]~~[00116] Our solution is designed for global use and is not limited to parking garage or parking meters spaces, Our innovation can be implemented anywhere, in any place designated as parking space . . . !

~~[00116]~~[00117] It is our intention that any new construction designated as parking space will have the sensor tags built in to the design for future use and benefit of drivers . . . !.

~~[00117]~~[00118] With our innovation, the next generation parking meter can be . . . no meter at all, with automatic recognition and automatic payments.

~~[00118]~~[00119] The ability to make "Remote" reservations will be future option.

~~[00119]~~[00120] We integrated the parking system as part of our NAV4 concepts where it will provide complete solutions for local navigation in an area where the GPS can't work.

Conclusion and Benefit

Driver Benefit:

Reduced search for parking

Reduced traffic

Parking availability ensured at trip destination.

Pre-trip parking information

Future option for a pre-trip or during trip parking reservation

Parking Sector:

Parking occupancy enhanced

Additional customer service

Better management control

Municipalities:

Reduced searching for parking by drivers

Reduced traffic

Reduced pollution

Better control of parking spaces

New source of income

BRIEF DESCRIPTION OF THE DRAWINGS

~~[00120]~~[00121] A complete understanding of the present invention may be obtained by reference to the accompanying drawings, when considered in conjunction with the subsequent, detailed description, in which:

~~[00121]~~[00122] FIG. 1 is illustration of the parking detector floating overlay display method in accordance with the present invention.

~~[00122]~~[00123] FIG. 2 is illustration of the parking detector on a cellular phone in accordance with the present invention.

~~[00123]~~[00124] FIG. 3 is illustration of the parking detector on a car-navigation in accordance with the present invention.

~~[00124]~~[00125] FIG. 4 is a illustration of the parking detection system environment in accordance with the present invention.

~~[00125]~~[00126] FIG. 5 is a flow diagram of the parking detector in accordance with the

present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

~~[00126]~~[00127] In all the figures of the drawing, sub-features and integral parts that correspond to one another bear the same reference symbol in each case:

~~[00127]~~[00128] Referring now to the figures of the drawings in details and first particularly to FIG. 1-5 thereof. There is shown a illustration of the method and system to detect and navigate to empty parking spaces.

~~[00128]~~[00129] The method contain the floating overlay display 100, a real-time floating overlay omni-directional circular display to overcome the limitations of the GPS based systems and the existing mapping systems.

~~[00129]~~[00130] The "user" will have easy way to figure out the distance and the direction to the empty parking spaces without GPS or any mapping.

~~[00130]~~[00131] The empty parking spaces will be displayed inside the graphical real-time omni-directional circular display in such way that the "user" will intuitively determine the distance and the direction to the empty parking spaces.

~~[00131]~~[00132] Each parking spaces will be shown with a simple color code to identify the type of the parking space e.g. 150 for example with green color will represent a regular empty parking space where 140 in color red for example will represent a handicap empty parking space.

~~[00132]~~[00133] Each color code display of an empty parking space can be access to obtain complete information about the available parking space e.g. price and automatic waypoint information.

~~[00133]~~[00134] Each circular line 130 represents 50' in distance from the "user"/car. This

makes it easy for the "user" to calculate the distance to the available empty parking space.

~~[0134]~~[00135] Moreover to make it easy to determine the directions and the location of the empty available parking spaces 140 and 150 the display circular divide to 4 parts represent as 120 B=back to the driving direction 110 as represent the car heading, R=as the right to the "user" driving direction and L=left to the driving direction as well as F=as front forward to the "user" car heading direction. Each of the empty parking spaces 140 and 150 are result of the broadcast directly from the parking sensor in the area of 300' around the "user" car.

~~[0135]~~[00136] A very small RF sensor installed in each parking space, any place designated as parking space ether parking meter, parking garage, street parking inside or outside public or commercial .the sensor can be RFID (long range type), a long range Bluetooth a wifi or any RF type. It broadcast a unique ID by wireless that identifies the location of the parking space 140 and 150 (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcast it to be pick up by the parking detector 100. [0136] The overlay add-up device/display can work even without mapping at all, the VOR like add-up display will show the available parking spots in the immediate area without the need for a mapping background; mapping can be offered as an additional service. No regenerating of mapping is necessary.

~~[0136]~~[00137] Referring to FIG. 2, its show the floating overlay parking detector 100 on cellular phone 210 as a Bluetooth cell phone application, there is no need for cellular communication or any internet web communication or any central system nor any access to a database.

~~[00137]~~[00138] We utilize the cellular phone 210 only as a Bluetooth enable device and the application overlay floating circular display 100 parking detector will run over ether GPS existing mapping or over a background of the area floor plan 230 that cab be ether download before access the parking area to plan ahead or download via Bluetooth or wifi at the entrance to the parking area.

~~[00138]~~[00139] Again, the mapping 230 or floor plan background is not critical to the navigation as the "user" will have easy time to determine and locate and navigate to the empty

parking spaces without the background mapping or the floor plan, no generation of mapping needed at all.

[00139][00140] Moreover by making the cellular phone 210 a parking detector even without any communication ether cellular or internet and using the telephone as a Bluetooth device any "user" even if his car not equipped with built-in navigation will have the option to determine the area empty spaces and use his telephone as parking detector.

[00140][00141] It must be explain that there is a deference between using the cellular phone 210 to receive information from the web or central database to our method when the cellular phone using our parking detector Bluetooth application will received directly information broadcast directly from the parking sensors.

[00141][00142] Turning now to FIG. 3. It is show the floating overlay parking detector 100 on a car navigation system 310 as an interface to the existing navigation system. # the floating overlay parking detector 100 on the car navigation 310 as a Bluetooth interface, there is no need for cellular communication or any internet web communication or any central system nor any access to a database.

[00142][00143] the overlay floating circular display 100 parking detector will run over ether GPS existing mapping or over a background of the area floor plan 330 that cab be ether download before access the parking area to plan ahead or download via Bluetooth or wifi at the entrance to the parking area.

[00143][00144] Again, the mapping 330 or floor plan background is not critical to the navigation as the "user" will have easy time to determine and locate and navigate to the empty parking spaces without the background mapping or the floor plan, no generation of mapping needed at all.

[00144][00145] Referring to FIG. 4. it's show illustration of the detection system include the parking sensors 410 The sensors 410, An RF motion sensor network that detects where the vacancy in a parking space is available.

~~[00145]~~[00146] A very small RF sensor installed in each parking space, any place designated as parking space ether parking meter, parking garage, street parking inside or outside public or commercial the sensor can be RFID (long range type), a long range Bluetooth a wifi or any RF type. It broadcast a unique ID by wireless that identifies the location of the parking space (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcast it to be pick up by the parking detector application on ether cellular phone 210 or car navigation 310 in-car 420 navigation system. The system can generate a parking ticket (e.g. for a parking garage) with the exact free parking space. Additional lens/screens for information can be installed at the corners of the parking lines--assisting drivers to locate available parking space. Similar lens/screens can be installed on street corners, open parking garages or on or for parking meters for drivers' guidance.

~~[00146]~~[00147] Our solution is designed for global use and is not limited to parking garage or parking meters spaces, Our innovation can be implemented anywhere, in any place designated as parking space . . . !

~~[00147]~~[00148] It is our intention that any new construction designated as parking space will have the sensor tags built in to the design for future use and benefit of drivers . . . !.

~~[00148]~~[00149] With our innovation, the next generation parking meter can be . . . no meter at all, with automatic recognition and automatic payments.

~~[00149]~~[00150] The ability to make "Remote" reservations will be future option.

~~[00150]~~[00151] We integrated the parking system as part of our NAV4 concepts where it will provide complete solutions for local navigation in an area where the GPS can't work.

~~[00151]~~[00152] Our Bluetooth/RF sensor 410 is based on a long range version of the popular short distance communication. This unique feature affords the user the ability to plan ahead where to park by obtaining data directly from the parking sensors and from remote by accessing the inventory of available parking spaces at the destination from data broadcast by Parking Guide 430.

~~[00152]~~[00153] Or the parking data can be displayed as an clear, heads-up display on the driver's windshield of his car 420 for the next generation parking detector.

~~[00153]~~[00154] More over, our innovation can solve the "RTP" (Return to parking) problem, where many forget where they parked their car. The system has an option to save the location on the "cellular phone--parking detector" application, which will make it easy to locate the parked car.

~~[00154]~~[00155] The parking sensors 410 broadcast their signal continuously and any of our parking detectors 210 or 310 will detect them and display the data on the "user" device in an easy to understand method.

~~[00155]~~[00156] With our innovation you have the parking information that you want, when you want it, where you want it . . . (and at a price you can afford . . .)

~~[00156]~~[00157] Once you are in the vicinity of your destination and you switch on your detector, you will automatically receive the parking information along your route (in all directions around you). No further action is required (there is no need to send a request or to access the internet/web or log on and search a database or central system . . . !!!).

~~[00157]~~[00158] Our unique approach does not need an internet bandwidth nor cellular communication at all . . .

~~[00158]~~[00159] And as a result there is no delay or waiting for communication and access time, the communication is instantaneous, directly between the sensors 410 and the "user" parking detector ether 210 or 310.

~~[00159]~~[00160] Parking detector, the empty parking spaces will be displayed inside a graphical real-time floating omni-directional circular display in such way that the "user"/car 420 will intuitively determine the distance and the direction to the empty parking spaces.

~~[00160]~~[00161] It must be noted that any Bluetooth enable device can be serve as a parking detector using our application method and it is not limited to cellular phone 210 and or

in-car navigation 310.

~~[00161]~~[00162] Turning to FIG. 5. show the method of broadcasint the empty parking space information to the parking detectors in the area.

~~[00162]~~[00163] [The RF sensor 510 will detect 540 the empty parking space and only then 520 will broadcast 550 to the parking detectors 560.

~~[00163]~~[00164] If the area is occupied then there is no 530 broadcasting at all.

~~[00164]~~[00165] Since other modifications and changes varied to fit particular operating requirements and environments will be apparent to those skilled in the art, the invention is not considered limited to the example chosen for purposes of disclosure, and covers all changes and modifications which do not constitute departures from the true spirit and scope of this invention.

System and Method of Detecting and Navigating To Empty Parking Spaces

Related Applications:

[0001] This application is a Non-Provisional Application, claiming the benefit of US Provisional application No. US60/670,097 filed April 12, 2005, which is incorporated herein in its entirety.

Field of the Invention:

[0002] This invention is directed generally to the field of location based navigation and, more particularly, to such systems and the method to be used in detecting and navigating to empty available parking spaces.

BACKGROUND OF THE INVENTION

[0003] Location based services are rapidly expanding. Outdoor location technologies are mainly based on GPS technologies. GPS does not perform properly indoors, and is not adequate; recently, as a result, indoor location systems are appearing on the market.

[0004] The need for a system such as ours stems from various market segments and applications. One example, in the market for integrated positioning and navigation systems using GPS receivers as their primary positioning technology, is the "Car navigator".

[0005] However, a major limitation of GPS is that uninterrupted satellite reception is not possible in many situations. Densely populated areas and radio-frequency-signal shadowed locations, such as urban centers ("urban canyons"), generally do not allow proper operation of GPS, yet it is in these locations that the need is greatest.

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[0006] There is a clear need for a cost effective system that maintains performance indoors, in urban canyons and in city centers.

[0007] Another important issue, GPS itself is susceptible to jamming and other man-made interference.

Description of GPS System.

[0008] The Global Positioning System (GPS) is a satellite-based navigation and time transfer system developed by the U.S. Department of Defense. GPS serves marine, airborne and terrestrial users, both military and civilian. Specifically, GPS includes the Standard Positioning Service (SPS) that provides civilian users with 100 meter accuracy as to the location or position of the user. It also serves military users with the Precise Positioning Service that provides 20-meter accuracy for the user. Both of these services are available worldwide with no requirement for any local equipment.

View of GPS Limitations:

[0009] First limitation of GPS is that upon activation the GPS receiver scans for signals from the GPS satellites. The unit must locate and receive signals from at least four satellites to be able to determine its location. This process of locating the satellites, receiving the data and achieving a position fix can take several minutes. This delay can be problematic for many GPS applications.

[0010] Second limitation of GPS is that the receiver needs a clear view of the sky to successfully receive signals from the satellites, again under unfriendly RF conditions such as inside buildings, or in "urban canyons" or under shadows of high buildings, the GPS suffers from multi-path effects and therefore shows poor performance, or none at all.

[0011] Third Limitation--limited accuracy: There's a problem of limited accuracy of civilian

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GPS signal. While knowing your position to within 50-200 feet anywhere on the planet is a major technological feat, it's still not accurate enough, to locate and navigate to an empty parking space, where each space measures about 10 feet, and most parking garages are located where the GPS is cannot work effectively.

[0012] Most of the navigation systems, such as the in-car navigation system, are based on GPS and have the aforementioned limitations.

[0013] Another significant factor adding to the limitations of the GPS based systems is the important role of map production; it is obvious that the user, driver, requires a map to be as detailed and as up-to-date as possible. However the existing maps used by the GPS based systems provide limited detail and the changes are not reflected on a timely basis

[0014] In this modern age when urban development is exploding, the lack of details and updates of the topographic maps and satellite images is critical; additionally and importantly, indoor location maps are not available at all for the GPS navigation systems.

Application:

[0015] In general, our system is based of applying machine-learning techniques to the task of inferring aspects of the user's state from a stream of input from sensors.

[0016] We have focused on indoor navigation, or navigation in crowded urban areas, where GPS based systems, due to lack of access to satellites or the GPS limitations detailed previously, cannot achieve the required results.

[0017] We have focused on the task of interactively guiding the user to a desired indoor destination.

[0018] Our system has a minimal need to know the user's location to carry out this task.

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Examples of Indoor Applications:

[0019] The user may be looking for a certain store in a shopping mall, or a particular aisle in a department store.

[0020] The user may be looking for a certain conference room in a convention center, for a point of interest in an amusement park or for a point of interest in a museum.

[0021] The user may be looking for a train location in a station, or stops in a large subway or underground train station.

[0022] Or may just want to find available parking space.

Parking Detection and Navigation Application:

[0023] There is no easy way to find empty parking spaces in a busy city. Drivers usually either wastes time driving around the area looking for an open space, or abandons the search, paying a large fee to park in a garage, or to use a valet parking service. It would be very advantageous to be able to provide a driver looking for a parking space with Parking Detector, capable of identifying available, empty parking spaces in the driver's proximity, and with a competitive edge over someone without such a Parking Detector.

[0024] Every working day 105 Million drivers are looking for a place to park!

[0025] It is estimated that 40% of urban traffic is due to this "Search for parking a space."

[0026] The top 85 US cities face increasing congestion problems because of steady population growth and the lack of locations to build additional parking. Traffic congestion is estimated to cost travelers in the 85 biggest US cities a whopping 3.5 billion hours a year, more than 50 hours a year per driver in major cities, almost a week of work.

[0027] Traffic and traffic congestion are two main reasons for pollution, and vehicle emissions contribute significantly to the "green house effect".

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[0028] In our society where time, convenience and comfort are precious commodities, parking is a major perk, or major headache.

[0029] Our "Parking Detection System" provides the answer to the most demanding need of any driver, "Where can I park?"

[0030] With the implementation of our system, navigating and detecting available parking spaces will become part of the information revolution.

[0031] Our system, a network of self organizing sensors will enable municipalities and other parking authorities to easily identify, exploit and manage revenue opportunities while at the same time providing better service at a lower operating cost.

[0032] With our system, drivers will save time, reduce the frustration of hunting for parking spaces and also will save money on gas usage and car maintenance costs.

[0033] By using and modifying existing technology, our system will integrate easily with other transportation and communication systems.

Reference to Prior Arts:

[0034] Despite the problems encountered by vehicle operators at parking facilities, most existing parking monitoring systems focus on collecting information for management. Some prior art systems employ sensors at entrances and exits to parking facilities or sections of such facilities (See U.S. Pat. No. 3,130,298 to Schwarz). These sensors trigger a counter to determine the number of cars in the monitored area by subtracting the number of cars leaving the area from those that have entered. At least one of these monitoring systems also engages a timer to determine the aggregate usage time of the facility by summing the total time from the entry of the cars to their departure (See U.S. Pat. No. 3,867,615 to Sioufi). These systems profess to be useful in monitoring the usage of the parking facility.

[0035] Prior Art curbside parking monitoring systems have been coupled with centralized

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signals which indicate general areas where drivers may find a curbside parking space (See U.S. Pat. Nos. 3,114,128 and 3,166,732 to Ljungman). Upon sensing that a space adjacent a parking meter is vacant, the system signals drivers from a signpost at an intersection of the city block along which the parking space is vacant. The signal appears in a binary yes or no stating that one or more parking spaces are available in the adjacent block-long area. However, because the driver seeing a parking available signal is not advised of the number and specific location of parking spaces that are available in that block, the vehicle operator may proceed to the indicated location to find that a single available space has already been occupied or that the space will not accommodate his vehicle. In either situation, the binary availability signal may lead the vehicle operator on a fruitless quest.

[0036] Another monitoring system for a parking facility compares the number of cars within a designated area (determined by counting cars entering minus cars departing the area) with the number of spaces within that area. When the net number of cars equals the number of spaces, the system registers that the area is completely full and signals drivers to proceed to the next area (See U.S. Pat. No. 3,158,836 to McCauley). Unfortunately, such systems again only yield a binary yes or no signal to the drivers. Even if an area contains only one available space, even if the space is obstructed, will not accommodate the driver's car, or is otherwise undesirable, a driver still will be lead to that area.

[0037] These prior art systems are of only limited help to vehicle operators and do not resolve many concerns associated with parking an automobile.

[0038] U.S. Pat. No. 5,293,163 to Kakihara, et al., entitled, "Navigation Apparatus for Vehicles", describes a system for finding garages or other parking facilities with available parking spaces. It provides for the display of available parking information in map format. This vehicle navigational system patent does not address the problem of locating available on-street parking. Instead, it addresses the problem of locating parking lots with available spaces. Parking lots in congested city areas are not very cost effective, and they may not be in close proximity to the driver's destination. The patent does not direct drivers directly to an available metered space, a less expensive alternative, but simply to a large parking lot where they will have to search for

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an available space. In addition, the Kakihara map display only directs the driver as far as a parking facility. The driver still must navigate around the parking facility to locate an available space.

[0039] U.S. Pat. No. 5,432,508 to Jackson, entitled, "Technique for Facilitating and Monitoring Vehicle Parking", describes a scheme for finding available parking spaces in garages and other parking facilities. It provides for the display of available parking information at the entrance of a garage and makes a provision for a light source to be mounted above a parking space to indicate its availability. Remote access to the data is provided by a dial-up telecommunication interface. Because the technique described operates over a wireline medium, it does not lend itself to being easily deployed in a wide area. Also, because parking information is never provided to any device within a vehicle, drivers still need to navigate through a garage to locate available spaces.

[0040] Parking meters with sensors, parking meters with transmitters, and navigational equipment receiving and displaying external information are well known in the art. U.S. Pat. No. 5,442,348 entitled, "Computerized Parking Meter", for example, describes a parking meter utilizing an ultrasonic transducer to detect when a car is occupying a parking space. Similarly, U.S. Pat. No. 5,454,461, entitled, "Electronic Parking Meter and System", describes a parking meter utilizing a sonar transducer for parked vehicle detection and radio means for receiving billing information.

[0041] At present, there is no on-board vehicle navigational system that delivers accurate and real time parking space information directly from the vehicle or ether portable phone application upon entering a specific geographic area.

Accurate Navigation

[0042] U.S. Pat. No. 5,504,482 to Schreder describes an automobile equipped with an inertial and satellite navigation system as well as a local area digitized street map. The main use of this patent is for route guidance in the presence of traffic jams, etc. Schreder describes how

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information as to the state of the traffic on a highway can be transmitted and utilized by a properly equipped vehicle to change the route the driver would take in going to his destination. Schreder does not disclose sub-meter vehicle location accuracy determination

Vehicle Location

[0043] U.S. Pat. No. 5,272,483 to Kato describes an automobile navigation system. This invention attempts to correct for the inaccuracies in the GPS system through the use of an inertial guidance, geomagnetic sensor, or vehicle crank shaft speed sensor. However, it is unclear as to whether the second position system is actually more accurate than the GPS system. This combined system, however, cannot be used for sub-meter positioning of an automobile.

[0044] U.S. Pat. No. 5,383,127 to Shibata uses map matching algorithms to correct for errors in the GPS navigational system to provide a more accurate indication of where the vehicle is or, in particular, on what road the vehicle is. This procedure does not give sub-meter accuracy. Its main purpose is for navigation and, in particular, in determining the road on which the vehicle is traveling.

[0045] U.S. Pat. No. 5,416,712 to Geier, et al. relates generally to navigation systems and more specifically to global positioning systems that use dead reckoning apparatus to fill in as backup during periods of GPS shadowing such as occur amongst obstacles, e.g., tall buildings in large cities. This patent shows a method of optimally combining the information available from GPS even when less than 3 or 4 satellites are available with information from a low-cost, inertial gyro, having errors that range from 1-5%. This patent provides an excellent analysis of how to use a modified Kalman filter to optimally use the available information.

[0046] U.S. Pat. No. 5,606,506 to Kyrtsos provides a good background of the GPS satellite system. It discloses a method for improving the accuracy of the GPS system using an inertial guidance system. This is based on the fact that the GPS signals used by Kyrtsos do not contain a differential correction and the selective access feature is on Locating a vacant parking space is an ordeal that causes frustration for many commuters. Even if a commuter pays to enter a parking

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lot, valuable time is consumed searching for a parking space within the parking lot. It seems that parking lots that service hospitals, airports, mass transit stations, entertainment forums, shopping malls and the like are always the most crowded, when time is the most crucial. As urban and suburban regions become more populated, finding a vacant parking space will become increasingly difficult for commuters.

[0047] U.S. Pat. No. 5,910,782 to Schmitt et al. ('782 patent) discloses a system for finding available on-street parking using an on-board vehicle navigation system and parking meters equipped with sensing devices. According to the '782 patent, real time metered parking space information can be accessed from a central location or directly by a vehicle, upon entering a specific geographic area.

[0048] U.S. Pat. No. 5,940,481 to Zeitman ('481 patent) discloses a parking management control system used to report parking, monitor parking and reserve parking spaces. According to the '481 patent, a user reports parking in a particular parking facility to a central control unit using a personal non-dedicated mobile communications device. The central control unit then confirms whether parking in the particular parking facility is authorized or not. The central control unit also generates a report indicating which parking facilities are supposed to be vacant for law enforcement officials so that unauthorized parking can be ticketed. `The `481 patent also discloses that a user can reserve a desired parking facility by selecting a desired parking facility from a map provided from the central control unit. If a potential user, other than the registered user, communicates a request to park in the reserved parking facility, the control unit transmits a response to the potential user indicating that the parking facility is reserved and not authorized for use.

[0049] At present, however, no prior art device utilizes the capabilities to display a real-time representation of available parking spaces directly from the sensors without central system. And without using a GPS system directly to the "user" driver. Also most of them are for the parking garage or solutions to parking meters area when our system is for any places designate as parking space, ether in-door, out door, public or private. Our system based on sensors that detect the empty space where most of the other detect the car . . .

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[0050] Other depends on a request to be sent to a central system or a database for parking where our system is a direct parking detector from the sensors.

[0051] Again, most of the existing prior arts are base ether on a GPS system or ether the existing car navigator (depend on a GPS to), and the existing mapping that they use has the same limitation as describe before and therefore practically can't be implements and work.

[0052] We believe that interface to the Internet can be a solution only for a remote planning and not a local solution where the driver is looking for a parking NOW!

[0053] We believe that our system method bridge the gap between the GPS based navigation and the existing system and allow to a complete solution.

Project in Parking:

[0054] XM Radio in conjunction with partners NU-Metrics inc. and infoGation, introduce a "parkingLink" capability concept.

[0055] The system shows the actual number of spaces available at designated parking facilities on vehicle navigation map, and uses color-keyed icons to indicate the percentage availability of the facility. The driver still must navigate around and inside the parking facility to locate an available space.

[0056] Parkingcarma from ACME Innovation, that is based on sensors that count the cars driving in and out of the parking facility and inform drivers via a cell phone call, or by an electronic sign, or over the internet, regarding the availability in the parking garage. The driver still must navigate around and inside the parking facility to locate an available space.

[0057] Other parking projects exist but they do not approach our innovation in ability to deliver a complete solution to the parking problem. Other projects address the issue from the perspective of a parking garage and do not consider street parking, nor are they really concerned to facilitate the location of an empty space inside their garage. They do not provide the driver

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with the ability to compare prices in the vicinity. Nor do other projects contemplate the concept of a parking detector with a direct communication between the sensors and the "user" driver in real-time#

Indoor Location Technologies

[0058] Various technologies are used for wireless indoor location. These may be classified in two aspects: The algorithm, i.e. the method of location used and the physical layer, i.e. the wireless technology used to communicate with the mobile device.

Location Methods

[0059] The methods typically used in indoor location are "borrowed" from the outdoor GPS location methods inventory. Specifically, four types of methods are used indoor:

[0060] Proximity Detection (PD), Received Signal Strength (RSSI), Time of arrival (TOA), and Angle of Arrival (AOA).

Proximity Detection (PD)

[0061] This method relies upon a dense grid of antennas, each having a well-known position. When a mobile is somehow detected by a single antenna, it is considered to be collocated with it. When more than one antenna detects the mobile, it is considered to be collocated with the one that receives the strongest signal.

[0062] This method is relatively simple to implement. It can be implemented over different types of physical media. In particular, IR and RFID are based on this method.

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Triangulation

[0063] Triangulation takes PD a step further, in the sense that it is based on measuring the signal level measurements from each antenna (possibly by using a triangulation mechanism), with respect to each mobile device. Following that, mobile is located by using a triangulation algorithm. Like the PD method, triangulation is relatively simple to implement.

Time of Arrival (TOA)

[0064] TOA is based on triggering the mobile devices to respond, and measuring the time it takes for the response to flyback to the antenna. The elapsed time represents the distance between the two. By using distances from few antennas, a mobile's position can be triangulated. TOA considered to be the most accurate method, because multipath effects can be filtered out, Yet, it is considerably more complex to implement, as it requires a modified hardware on the mobile side, as well as special modifications on the antenna side.

Angle of Arrival (AOA)

[0065] AOA is based on finding the direction of maximal signal intensity for each antenna-device pair. By finding the intersection of few such direction vectors, a mobile's position can be estimated AOA is considerably less accurate than TOA, due to limited angular resolution and the fact that indoor much of the signal is reflected. Also, AOA antennas are more complex, as they require multi-section, highly directional antennas, and multiple RF circuitry.

WLAN (IEEE 802.11b)

[0066] This midrange wireless local networking standard, operating in the 2.4 GHz ISM band, has become very popular in public hotspots and enterprise locations during the last few years. With a typical gross bit rate of 11 Mbps and a range of 50-100 m, IEEE 802.11b is

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currently the dominant local wireless networking standard. It is therefore appealing to use an existing WLAN infrastructure for indoor location as well, by adding a location server. Such solutions do exist in the market, providing an accuracy of about 2 m. One limitation of such systems is the fact that WLAN tags are relatively bulky and power hungry. Thus, such locators are mainly useful to locate WLAN enabled instruments, such as portable computers.

[0067] Note that in WLAN, antennas are actually part of access points (APs), through which devices communicate with the access network. This is also the case with Bluetooth.

Bluetooth (IEEE 802.15)

[0068] Bluetooth is a newer wireless local networking standard, that operates in the 2.4 GHz ISM band. Compared to WLAN, the gross bit rate is lower (1 Mbps), and the range is shorter (typically 10-15 m, though there are Tags with a range of over 300 feet). On the other hand, Bluetooth is a "lighter" standard, highly ubiquitous (embedded in most phones, PDA's, PC peripherals, etc.) and supports, in addition to IP, several other networking services. Notably, Bluetooth supports serial port emulation, voice, and various types of object exchange.

[0069] Bluetooth tags are small, pocketsize transceivers.

[0070] Every Bluetooth device's tag has a unique ID. This ID can be used for locating the tag.

SUMMARY OF THE INVENTION

[0071] In accordance with the present invention, it is our Project's objectives:

[0072] Our system is not a location and tracking system as offered by most other systems; it is a navigation method based on the following unique characteristics:

[0073] Most locations, buildings, malls, stores, museums, parks, city centers, subways,

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railways, etc., already have their own basic floor plans. Our sensor net, and sensor tags in an indoor /outdoor navigation situation, replace the satellite in the GPS based system to calculate and locate the "user" track. Our innovation had 3 major parts: the sensors, the parking detector and the special method to display it on.

[0074] The sensors, An RF motion sensor network that detects where the vacancy in a parking space is available.

[0075] A very small RF sensor installed in each parking space, any place designated as parking space ether parking meter, parking garage, street parking inside or outside public or commercial. The sensor can be RFID (long range type), a long range Bluetooth, a WiFi or any RF type. It broadcasts a unique ID by wireless that identifies the location of the parking space (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcasts the vacancy to be received by the parking detector. The system can generate a parking ticket (e.g. for a parking garage) with the exact free parking space. Additional lens/screens for information can be installed at the corners of the parking lines--assisting drivers to locate available parking space. Similar lens/screens can be installed on street corners, open parking garages or on or for parking meters for drivers' guidance.

[0076] The parking detector, the parking detector (in a process of trade mark) will receive the broadcasting parking sensors in the area around the "user" with interface to his existing in-car navigation system and or his cellular telephone as an application that utilize the cellular phone Bluetooth device (no cellular communication or internet or database access needed) or any Bluetooth enable device that will run our parking detector application as a stand alone device.

[0077] The display method is our unique way to bridge the existing devices like car navigation and Bluetooth devices and existing GPS mapping with the limitation that describe before with a simple application method, In a cellular phone application or in any other device Bluetooth devices or in the existing in-car navigation, we will provide our overlay add-up display method as an add-on to the existing navigation system as a real-time floating overlay omni directional circular display to overcome the limitations of GPS based systems and the

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existing mapping systems.

[0078] The overlay add-up device/display can work even without mapping at all, a VOR like add-up display will show the available parking spots in the immediate area without the need for a mapping background; mapping can be offered as an additional service. No regenerating of mapping is necessary.

[0079] Another option is to download a the floor map containing destination maps from a remote location, internet or destination guide--parking guide over the web as a new way of planning a route and navigating at the destination. Our navigation system method will enable remote navigation based on the downloaded local floor plan, or locally, when the location's floor plan can be downloaded at the destination. An example of this would be at the entrance of the parking garage, shopping mall, department store, amusement park, museum or the city down town area.

[0080] Our system is based on a network of sensors that can be deployed anywhere, not just in parking lots or parking garages.

[0081] The System is accurate to within 10 feet, well ahead of the navigation and GPS [0080] The system can work inside a building whereas GPS cannot.

[0082] Local detection is obtained via popular Bluetooth interface.

[0083] The system provides information about each parking space's availability, including information about the price and type of space. Example: regular, handicap etc.

[0084] The system overcomes the anxiety of "Where will I park" (or return to parking RTP) by providing the ability to locate a space in advance from your Bluetooth enabled device or your cell phone with our parking detector application.

[0085] The system can become the "Next generation parking meter".

[0086] Automatic payments can be handled via a system such as "Sun Pass" or other established account.

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[0087] The system can afford established account/card holders (e.g. Sun Pass members) the option to make a parking reservation in advance.

[0088] The system can be an additional feature for city WI-FI . . . or being part of the deployment.

[0089] The system can serve as security add-on by providing authorities with information about a parked car in case of an emergency or security situation. No need to be in the area where the information about the parking cars can be transmitting to the authorities by remote.

[0090] Using the system, municipalities and parking facilities can manage better, compile helpful statistics and increase inventory control of the parking spaces resulting in better service and increased availability.

[0091] The system eases navigation to a parking space, without a navigation map or GPS. Mapping background can be provided as an additional feature on our system.

[0092] The system provides "Local" detection as well as "Remote" detection.

[0093] The system allows easy implementation to existing networks. And parking system

[0094] The system saves gas, time, money and eases global warming.

[0095] Our system is based on a network of sensors that can be deployed anywhere, not just in parking lots or parking garages. The network can be deployed in any location designated for parking. The location can be private or commercial, street or mall, metered or not, free space or charged.

[0096] Our parking detection method is unique. We base our system on RF sensor tags with interface to Bluetooth enabled devices This feature allows detection inside a building where GPS cannot work, as well as outside, with the capability to guide the driver to within 10 feet of the destination (i.e. a parking space), significantly better than any other navigation and GPS based systems on the market.

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[0097] Our Bluetooth/RF sensor is based on a long-range version of the popular short distance communication. This unique feature affords the user the ability to plan ahead where to park by obtaining data directly from the parking sensors and from remote by accessing the inventory of available parking spaces at the destination from data broadcast by Parking Guide.

[0098] One problem with In-Car navigation and or GPS mapping is that they cannot guide the user to closer then 50-200 feet, and only in open places, whereas our solution can provide accurate directions to within 6 to 10 feet, and to pinpoint the right parking space.

[0099] Our system will be a challenge to the navigation providers as well as the GPS providers as they cannot provide mapping or navigation inside the parking garage or lot, and in street parking the GPS/Navigation map cannot accurately locate the parking space.

[00100] Utilizing our patent pending innovation the available parking spaces in the vicinity around the "user" car are displayed on a floating overlay using either an existing installed navigation system or a stand alone device without any mapping at all.

[00101] Navigation using the mapping or floor-plan of a location can be offered as an additional service, although it may not be necessary or needed, as the "user" will have easy way to figure out the distance and the direction to the empty parking spaces without GPS or any mapping . . . !

[00102] The option of downloading a floor plan can be exercised either remotely or locally.

[00103] The parking sensors broadcast their signal continuously and any of our parking detectors will detect them and display the data on the "user" device in an easy to understand method.

[00104] With our innovation you have the parking information that you want, when you want it, where you want it . . . (and at a price you can afford . . .).

[00105] Once you are in the vicinity of your destination and you switch on your detector, you will automatically receive the parking information along your route (in all directions around

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you). No further action is required (there is no need to send a request or to access the internet/web or log on and search a database or central system . . . !!!).

[00106] Our unique approach does not need an internet bandwidth nor cellular communication at all . . .

[00107] And as a result there is no delay or waiting for communication and access time, the communication is instantaneous, directly between the sensors and the "user" parking detector.

[00108] Parking detector, the empty parking spaces will be displayed inside a graphical real-time floating omni-directional circular display in such way that the "user" will intuitively determine the distance and the direction to the empty parking spaces.

[00109] Additionally, each parking space will be shown with a simple color-coded to identify the type of the parking space, e.g. regular of handicap.

[00110] Each color-code display of an empty parking space can be accessed to obtain complete information about the parking space, e.g. price and automatic waypoint information.

[00111] Each circular line represents 50' feet in distance from the "user"/car.

[00112] This makes it easy for the "user" to calculate the distance to the parking space.

[00113] The ability to operate our innovation on an existing in-car navigation system, or using a cellular phone as an application--parking detector (no need for cellular connection), or a stand alone device, means the "user" can use it even if his car not equipped with a built-in navigation system.

[00114] Or the parking data can be displayed by a clear, heads-up display on the driver's windshield for the next generation parking detector.

[00115] More over, our innovation can solve the "RTP" (Return to parking) problem, where many forget where they parked their car. The system has an option to save the location on the "cellular phone--parking detector" application, which will make it easy to locate the parked car.

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[00116] Our solution is designed for global use and is not limited to parking garage or parking meters spaces. Our innovation can be implemented anywhere, in any place designated as parking space . . . !

[00117] It is our intention that any new construction designated as parking space will have the sensor tags built in to the design for future use and benefit of drivers . . . !.

[00118] With our innovation, the next generation parking meter can be . . . no meter at all, with automatic recognition and automatic payments.

[00119] The ability to make "Remote" reservations will be future option.

[00120] We integrated the parking system as part of our NAV4 concepts where it will provide complete solutions for local navigation in an area where the GPS can't work.

Conclusion and Benefit
Driver Benefit:
Reduced search for parking
Reduced traffic
Parking availability ensured at trip destination.
Pre-trip parking information
Future option for a pre-trip or during trip parking reservation
Parking Sector:
Parking occupancy enhanced
Additional customer service
Better management control
Municipalities:
Reduced searching for parking by drivers
Reduced traffic
Reduced pollution
Better control of parking spaces
New source of income

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BRIEF DESCRIPTION OF THE DRAWINGS

[00121] A complete understanding of the present invention may be obtained by reference to the accompanying drawings, when considered in conjunction with the subsequent, detailed description, in which:

[00122] FIG. 1 is an illustration of the parking detector floating overlay display method in accordance with the present invention.

[00123] FIG. 2 is an illustration of the parking detector on a cellular phone in accordance with the present invention.

[00124] FIG. 3 is an illustration of the parking detector on a car-navigation in accordance with the present invention.

[00125] FIG. 4 is an illustration of the parking detection system environment in accordance with the present invention.

[00126] FIG. 5 is a flow diagram of the parking detector in accordance with the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[00127] In all the figures of the drawing, sub-features and integral parts that correspond to one another bear the same reference symbol in each case:

[00128] Referring now to the figures of the drawings in details and first particularly to FIG. 1-5 thereof. There is shown an illustration of the method and system to detect and navigate to empty parking spaces.

[00129] The method contain the floating overlay display 100, a real-time floating overlay

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omni-directional circular display to overcome the limitations of the GPS based systems and the existing mapping systems.

[00130] The "user" will have easy way to figure out the distance and the direction to the empty parking spaces without GPS or any mapping.

[00131] The empty parking spaces will be displayed inside the graphical real-time omni-directional circular display in such way that the "user" will intuitively determine the distance and the direction to the empty parking spaces.

[00132] Each parking spaces will be shown with a simple color code to identify the type of the parking space e.g. 150 for example with green color will represent a regular empty parking space where 140 in color red for example will represent a handicap empty parking space.

[00133] Each color code display of an empty parking space can be access to obtain complete information about the available parking space e.g. price and automatic waypoint information.

[00134] Each circular line 130 represents 50' in distance from the "user"/car. This makes it easy for the "user" to calculate the distance to the available empty parking space.

[00135] Moreover to make it easy to determine the directions and the location of the empty available parking spaces 140 and 150 the display circular divide to 4 parts represent as 120 B=back to the driving direction 110 as represent the car heading, R=as the right to the "user" driving direction and L=left to the driving direction as well as F=as front forward to the "user" car heading direction. Each of the empty parking spaces 140 and 150 are result of the broadcast directly from the parking sensor in the area of 300' around the "user" car.

[00136] A very small RF sensor installed in each parking space, any place designated as parking space ether parking meter, parking garage, street parking inside or outside public or commercial. The sensor can be RFID (long range type), a long range Bluetooth a WiFi or any RF type. It broadcasts a unique ID by wireless that identifies the location of the parking space 140 and 150 (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcast it to be received by the parking detector 100.

Google Ex. 1021, p. 150

[00137] The overlay add-up device/display can work even without mapping at all, the VOR like add-up display will show the available parking spots in the immediate area without the need for a mapping background; mapping can be offered as an additional service. No regenerating of mapping is necessary.

[00138] Referring to FIG. 2, its show the floating overlay parking detector 100 on cellular phone 210 as a Bluetooth cell phone application, there is no need for cellular communication or any internet web communication or any central system nor any access to a database.

[00139] We utilize the cellular phone 210 only as a Bluetooth enable device and the application overlay floating circular display 100 parking detector will run over ether GPS existing mapping or over a background of the area floor plan 230 that can be ether download before access the parking area to plan ahead or download via Bluetooth or WiFi at the entrance to the parking area.

[00140] Again, the mapping 230 or floor plan background is not critical to the navigation as the "user" will have easy time to determine and locate and navigate to the empty parking spaces without the background mapping or the floor plan, no generation of mapping needed at all.

[00141] Moreover by making the cellular phone 210 a parking detector even without any communication ether cellular or internet and using the telephone as a Bluetooth device any "user" even if his car not equipped with built-in navigation will have the option to determine the area empty spaces and use his telephone as parking detector.

[00142] It must be explain that there is a deference between using the cellular phone 210 to receive information from the web or central database to our method when the cellular phone using our parking detector Bluetooth application will received directly information broadcast directly from the parking sensors.

[00143] Turning now to FIG. 3. It is show the floating overlay parking detector 100 on a car navigation system 310 as an interface to the existing navigation system. The floating overlay parking detector 100 on the car navigation 310 as a Bluetooth interface, there is no need for cellular communication or any Internet web communication or any central system nor any access

Google Ex. 1021, p. 151

to a database.

[00144] The overlay floating circular display 100 parking detector will run over ether GPS existing mapping or over a background of the area floor plan 330 that cab be ether download before access the parking area to plan ahead or download via Bluetooth or WiFi at the entrance to the parking area.

[00145] Again, the mapping 330 or floor plan background is not critical to the navigation as the "user" will have easy time to determine and locate and navigate to the empty parking spaces without the background mapping or the floor plan, no generation of mapping needed at all.

[00146] Referring to FIG. 4, the illustration of the detection system includes the parking sensors 410, the sensors 410, and an RF motion sensor network that detects where the vacancy in a parking space is available.

[00147] A very small RF sensor installed in each parking space, any place designated as parking space ether parking meter, parking garage, street parking inside or outside public or commercial the sensor can be RFID (long range type), a long range Bluetooth a WiFi or any RF type. It broadcast a unique ID by wireless that identifies the location of the parking space (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcast it to be received by the parking detector application on ether cellular phone 210 or car navigation 310 in-car 420 navigation system. The system can generate a parking ticket (e.g. for a parking garage) with the exact free parking space. Additional lens/screens for information can be installed at the corners of the parking lines--assisting drivers to locate available parking space. Similar lens/screens can be installed on street corners, open parking garages or on or for parking meters for drivers' guidance.

[00148] Our solution is designed for global use and is not limited to parking garage or parking meters spaces, the present innovation can be implemented anywhere, in any place designated as parking space . . . !

[00149] It is our intention that any new construction designated as parking space will have the sensor tags built in to the design for future use and benefit of drivers . . . !.

Google Ex. 1021, p. 152

[00150] With our innovation, the next generation parking meter can be . . . no meter at all, with automatic recognition and automatic payments.

[00151] The ability to make "Remote" reservations will be future option.

[00152] We integrated the parking system as part of our NAV4 concepts where it will provide complete solutions for local navigation in an area where the GPS can't work.

[00153] Our Bluetooth/RF sensor 410 is based on a long range version of the popular short distance communication. This unique feature affords the user the ability to plan ahead where to park by obtaining data directly from the parking sensors and from remote by accessing the inventory of available parking spaces at the destination from data broadcast by Parking Guide 430.

[00154] Or the parking data can be displayed as a clear, heads-up display on the driver's windshield of his car 420 for the next generation parking detector.

[00155] More over, our innovation can solve the "RTP" (Return to parking) problem, where many forget where they parked their car. The system has an option to save the location on the "cellular phone--parking detector" application, which will make it easy to locate the parked car.

[00156] The parking sensors 410 broadcast their signal continuously and any of our parking detectors 210 or 310 will detect them and display the data on the "user" device in an easy to understand method.

[00157] With our innovation you have the parking information that you want, when you want it, where you want it . . . (and at a price you can afford . . .)

[00158] Once you are in the vicinity of your destination and you switch on your detector, you will automatically receive the parking information along your route (in all directions around you). No further action is required (there is no need to send a request or to access the internet/web or log on and search a database or central system . . . !!!).

[00159] Our unique approach does not need an internet bandwidth nor cellular

Google Ex. 1021, p. 153

communication at all . . .

[00160] And as a result there is no delay or waiting for communication and access time, the communication is instantaneous, directly between the sensors 410 and the "user" parking detector ether 210 or 310.

[00161] Parking detector, the empty parking spaces will be displayed inside a graphical real-time floating omni-directional circular display in such way that the "user"/car 420 will intuitively determine the distance and the direction to the empty parking spaces.

[00162] It must be noted that any Bluetooth enable device can be serve as a parking detector using our application method and it is not limited to cellular phone 210 and or in-car navigation 310.

[00163] Turning to FIG. 5, the illustration shows the method of broadcasting the empty parking space information to the parking detectors in the area.

[00164] The RF sensor 510 will detect 540 the empty parking space and only then 520 will broadcast 550 to the parking detectors 560.

[00165] If the area is occupied then there is no 530 broadcasting at all.

[00166] Since other modifications and changes varied to fit particular operating requirements and environments will be apparent to those skilled in the art, the invention is not considered limited to the example chosen for purposes of disclosure, and covers all changes and modifications which do not constitute departures from the true spirit and scope of this invention.

Google Ex. 1021, p. 154

Electronic Patent Application Fee Transmittal

Application Number:	11396843
Filing Date:	03-Apr-2006
Title of Invention:	System and method of detecting and navigating to empty parking spaces
First Named Inventor/Applicant Name:	Ehud Mendelson
Filer:	Glenn Eric Gold/Louis C. Senat
Attorney Docket Number:	PD101

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:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 3 months with $0 paid	2253	1	555	555

Google Ex. 1021, p. 155

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Request for continued examination	2801	1	405	405
		Total in USD ($)		**960**

Electronic Acknowledgement Receipt

EFS ID:	7307829
Application Number:	11396843
International Application Number:	
Confirmation Number:	3897
Title of Invention:	System and method of detecting and navigating to empty parking spaces
First Named Inventor/Applicant Name:	Ehud Mendelson
Customer Number:	61887
Filer:	Glenn Eric Gold/Louis C. Senat
Filer Authorized By:	Glenn Eric Gold
Attorney Docket Number:	PD101
Receipt Date:	29-MAR-2010
Filing Date:	03-APR-2006
Time Stamp:	16:39:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$960
RAM confirmation Number	3618
Deposit Account	502683
Authorized User	GOLD,GLENN

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 1.16 (National application filing, search, and examination fees)

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 1.20 (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		2031-0100_FOA_092909_RCE-Reply_032910.pdf	318490 aa4ee399ff43872328c8671137ab056f055ed05a	yes	77

Multipart Description/PDF files in .zip description

Document Description	Start	End
Extension of Time	1	1
Request for Continued Examination (RCE)	2	2
Amendment Submitted/Entered with Filing of CPA/RCE	3	9
Claims	10	16
Applicant Arguments/Remarks Made in an Amendment	17	26
Specification	27	52
Specification	53	77

Warnings:

Information:

2	Fee Worksheet (PTO-875)	fee-info.pdf	32130 cda45e26657bf255273e764d536475845c90dc19	no	2

Warnings:

Information:

Total Files Size (in bytes):	350620

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.

PTO/SB/22 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) **FY 2009** (*Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).*)	Docket Number (Optional) 2031.0100
Application Number 11/396,843	Filed April 3, 2006
For System And Method Of Detecting And Navigating To Empty Parking Spaces	
Art Unit	Examiner

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

		Fee	Small Entity Fee	
☐	One month (37 CFR 1.17(a)(1))	$130	$65	$
☐	Two months (37 CFR 1.17(a)(2))	$490	$245	$
☑	Three months (37 CFR 1.17(a)(3))	$1110	$555	$ 555.00
☐	Four months (37 CFR 1.17(a)(4))	$1730	$865	$
☐	Five months (37 CFR 1.17(a)(5))	$2350	$1175	$

☑ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☑ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 502683.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration Number _____

☐ attorney or agent under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

/glenn gold/	March 29, 2010
Signature	Date
Glenn E. Gold	(954)-452-0033
Typed or printed name	Telephone Number

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☐ Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). 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 1.11 and 1.14. This collection is estimated to take 6 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, 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 11/396,843	Filing Date 04/03/2006	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			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 $250 ($125 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			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	03/29/2010	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 24	Minus	** 24	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $110 =	0	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	0	OR	TOTAL ADD'L FEE	

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	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 number found in the appropriate box in column 1.

Legal Instrument Examiner:
/ERIC V. BURNS/

This collection of information is required by 37 CFR 1.16. 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, 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.**

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PTO/SB/81 (01-09)
Approved for use through 11/30/2011. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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POWER OF ATTORNEY OR REVOCATION OF POWER OF ATTORNEY WITH A NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Application Number	11/396,843
Filing Date	April 3, 2006
First Named Inventor	Ehud Mendelson
Title	System & Method of Detecting And Navagating
Art Unit	3661
Examiner Name	Yonel Beaulieu
Attorney Docket Number	

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith: **34170**

OR

☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified application to:

☒ The address associated with the above-mentioned Customer Number.

OR

☐ The address associated with Customer Number:

OR

☐	Firm or Individual Name				
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the:

☒ Applicant/Inventor.

OR

☐ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) (Form PTO/SB/96) submitted herewith or filed on _____.

SIGNATURE of Applicant or Assignee of Record

Signature	/Ehud Mendelson/	Date	March 17, 2010
Name	Ehud Mendelson	Telephone	(954)-452-0033
Title and Company			

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 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, 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	7276966
Application Number:	11396843
International Application Number:	
Confirmation Number:	3897
Title of Invention:	System and method of detecting and navigating to empty parking spaces
First Named Inventor/Applicant Name:	Ehud Mendelson
Customer Number:	61887
Filer:	Glenn Eric Gold/Louis C. Senat
Filer Authorized By:	Glenn Eric Gold
Attorney Docket Number:	PD101
Receipt Date:	24-MAR-2010
Filing Date:	03-APR-2006
Time Stamp:	15:59:10
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	Power of Attorney	Mendelson_New_POA_Executed.pdf	58163 733df8860978e80f521767fd8f2dcf78b44bcc48	no	1

Warnings:	
Information:	

Total Files Size (in bytes):	58163

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
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/396,843	04/03/2006	Ehud Mendelson	PD101	3897

61887 7590 09/29/2009

EHUD MENDELSON
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EXAMINER	
BEAULIEU, YONEL	
ART UNIT	**PAPER NUMBER**
3661	

MAIL DATE	DELIVERY MODE
09/29/2009	PAPER

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.

Office Action Summary	Application No.	Applicant(s)	
	11/396,843	MENDELSON, EHUD	
	Examiner	Art Unit	
	/Yonel Beaulieu/	3661	

-- 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* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ 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

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

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

10)☐ The drawing(s) filed on _____ 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).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

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).

a)☐ All b)☐ Some * c)☐ None of:

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) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

Applicant's arguments with respect to claims 1, 2, 6, 7, 12, 17, and 18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claim 11 needs a period at the end as prescribed by MPEP § 608.01(m). See Fressola v. Manbeck.

Claims 7 and 18 are objected to because of the following informalities: in claim 7, "Scanning" (line 1) should be - -scanning- -; at line 4, "scanining" appears to be - -scanning- -; and at line 5, “Directly” should be - -directly- -; in claim 18, line 3, "Return To Parking” should be - -return to parking- -. Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims 2 and 7 - 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, “***said the parking beacon (tag) transmitter***” lacks clear antecedent basis.

Regarding claim 7, the phrase "***such as***" (line 6) renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 – 13, 18 – 20, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by USP 6970101 B1 to Squire et al ("Squire").

Regarding the above claims, Squire teaches a wireless parking detector comprising a RF sensor (20) for detecting an empty parking space (col. 2, lines 30 – 43 at least) and wirelessly scanning directly from a car navigating or phone (see figs. 3-4; col. 3, lines 32 – 41; col. 4, lines 25 – 29; col. 5, lines 47 and 62 at least) – the sensor being installed in indoor (mall) parking space (see figs. 1-2, 4) – the parking data including data ID (figs. 4-5) – the data including normal or handicap parking (col. 6, lines 53 – 57; col. 8, lines 46 – 48; col. 10, lines 18- 30; col. 12, lines 16 – 17 at least).

Squire further teaches further displaying parking availability information on at least one display device (50) selected from the group consisting of a mobile phone, a Bluetooth™ enabled device (figs. 3 – 4, 7, 9; col. 8, lines 25 – 32 and col. 12, lines 10 – 15), receiving parking space data form a parking sensor – the availability being selected from a normal parking and handicap parking (col. 6, lines 47 - 57; col. 8, line 46 - 54;, displaying, using application software, empty parking space information as a floating overlay on the display device (50) without background mapping, the parking space being floated over an existing floor plan (see figs. 1 -2), the parking space location of a vehicle being registered (by computer 22; see fig. 4), additional information being available on a parking space as a waypoint (additional information regarding restaurants, stores, car size [compact], etc.).

Claim Rejections - 35 USC § 103

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

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 14 – 17 and 21 - 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Squire (‘101) in view of USP 5910782 to Schmitt et al (“Schmitt”).

Regarding claims 14 – 17 and 21 - 23, Squire further teaches all of the limitations, but is somewhat silent on the vehicle on-board navigation system with positional data, current position of the vehicle, parking ticket, electronic payment/debit.

However, Schmitt teaches, in the same field of endeavor of displaying parking availability, a vehicle on-board navigation system (fig. 1; title; abstract at least) with positional data, current position of the vehicle by triangulation calculation (using GPS technology as noted in col. 2, lines 59 – 63 at least), parking ticket, electronic payment/debit (col. 61 – 63; col. 2, line 64 – col. 3, line 22 at least).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Squire's teaching by including a vehicle on-board navigation system with positional data, current position of the vehicle by triangulation calculation, parking ticket, electronic payment/debit as evidenced by Schmitt in order to enhance guiding a vehicle to available parking spaces in a timely manner.

As to providing the display device with an omni-directional circular display or forming the display as head-up display such would have been obvious to one of ordinary skill in the art at the time of the invention as involving routine skill in the art.

Conclusion

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

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

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Yonel Beaulieu/ whose telephone number is (571) 272-6955. The examiner can normally be reached on Mon., Wed. & Thur. between 0900 and 1600.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas BLACK can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/Yonel Beaulieu/
Yonel Beaulieu
Primary Examiner
Art Unit 3661

Index of Claims

Application/Control No.	Applicant(s)/Patent under Reexamination
11/396,843	MENDELSON, EHUD
Examiner	**Art Unit**
/Yonel Beaulieu/	3661

√	Rejected	–	(Through numeral) Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

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05-20-09

ZW



Response to office letter
Application:11/396,843

Mail stop fee amendment
Hon. Commission for patents
P.O. Box 1450
Alexandria,VA 22313-1450
"Express Mail" mailing label number :EH 625361182 US
Friday, May 15, 2009

Sir, Madam:

Responsive to the office letter dated April 20, 2009 application #:11/396,843 confirmation #:3897 art unit: 3661 Kindly identified the separate Pages for the amendments and claims as requested .

Amendments to the specification begin on page 2-3 of this paper.

Amendments to the claims begin on page 4 of this paper.

Remarks/Arguments begin on page 10 of this paper.

Please update in the publishing :the application claim the benefit of 60/670,097 Filed April 12, 2005.

Google Ex. 1021, p. 174

Specification Amendments

Please replace the abstract of the disclosure, with the following amended abstract of the disclosure:

The parking detection system method described herein could guide people around urban environments detect guide and navigate them to empty parking spaces, add-on to the car-based navigation systems ~~that are popular today~~ and or to the ~~portable~~ cellular phone. We have focused on the task of detecting and navigating even in situations in which Global Positioning Systems (GPS) cannot provide this information, such as when the person is indoors or in crowded urban areas where there is no line of site to the GPS satellites and without the need for central computer system or internet connections.
The parking information will be received directly from RF sensors and will display as a floating overlay on the existing navigation system and or cellular phone as Bluetooth application.

Google Ex. 1021, p. 175

Abstract of the disclosure

The parking detection system method described herein could guide people around urban environments detect guide and navigate them to empty parking spaces, add-on to the car-based navigation systems and or to the cellular phone. We have focused on the task of detecting and navigating even in situations in which Global Positioning Systems (GPS) cannot provide this information, such as when the person is indoors or in crowded urban areas where there is no line of site to the GPS satellites and without the need for central computer system or internet connections. The parking information will be received directly from RF sensors and will display as a floating overlay on the existing navigation system and or cellular phone as Bluetooth application.

Google Ex. 1021, p. 176

Claim Amendments

1. (currently amended)A wireless parking detector, comprising: a radio frequency (RF) sensor for detecting an empty parking space and ~~outputting parking data; and a transmitter receiving~~ scanning~~-~~ the ~~parking data from said~~ RF sensor ~~and~~ wirelessly ~~transmitting the parking data.~~ directly from the car navigating and or cellular phone .

2. (currently amended)The wireless parking detector according to claim 1, wherein said the parking beacon (tag)transmitter only actively transmitting if said RF sensor detects an actually empty parking space.

3. (currently amended)The wireless parking detector according to claim 1, wherein said RF sensor is one of a plurality of wireless sensors installed in a known location ~~defining a network~~ where each of said wireless sensors detects a designated, individual parking space.

4. (currently amended)The wireless detector according to claim 1, wherein said RF sensor can be installed on any place that is designated as a parking space outdoor or indoor.

5. (Original)The wireless sensor according to claim 1, wherein the parking data includes a data ID of a particular parking space.

6. (currently amended)The wireless sensor according to claim 5, wherein the parking ID ~~data~~ to includes known address ~~data~~, price ~~data~~, and type of parking ~~data~~ selected from the group consisting normal parking and handicap parking.

7. (currently amended)A method for Scanning receiving and displaying parking availability information on at least one display device selected from the group consisting of a vehicle ~~on-board~~ navigation system, a mobile cell phone, and or a Bluetooth enabled device, the method comprises the steps of:scanining the parking sensors tags ~~receiving parking space data~~ Directly from a car navigation and or cellular phone ~~parking sensor~~, via RF such as wifi or Bluetooth without the need for a central system or database and or internet connections ~~the parking space data including positional data, price data, and type of parking availability data selected from the group consisting of normal parking and handicap parking;~~ and displaying empty parking space information as a floating overlay on the display device.

Google Ex. 1021, p. 177

8.(original) The method according to claim 7, which further comprises floating the empty parking space information over an existing floor plan.

9. (Original)The method according to claim 7, wherein the empty parking space information is displayed as a stand alone application without background mapping.

10. (Original)The method according to claim 7, which further comprises displaying the empty parking space information over a facility map, area map, or floor plan downloaded to the display device.

11. (Original)The method according to claim 7, wherein the empty parking space information pertains to navigating a current parking area

12. (currently amended)The method according to claim 11, which further comprises determining a current position of a vehicle ~~by a triangulation calculation~~ based on known positions of ~~a plurality of~~ the wireless parking sensors to the vehicle.~~detecting the vehicle~~.

13. (Original)The method according to claim 12, which further comprises navigating to the current parking area using a mapping facility.

14. (Original)The method according to claim 7, which further comprises producing a parking ticket with an exact location to a park space for a vehicle, the parking ticket being distributed by a parking garage.

15. (Original)The method according to claim 7, which further comprises paying electronically the parking sensor which replaces a parking meter.

16. (Original)The method according to claim 7, wherein the parking sensor automatically debits the display device.

17. (currently amended)The method according to claim 12, which further comprises performing the determining step without an aid of a global positioning satellite system or central database system.

18. (currently amended)The method according to claim 7, which further comprises: registering an exact parking place location of a vehicle on the display device; and

Google Ex. 1021, p. 178

subsequently allow Return To Parking- navigating to where the vehicle is parked.~~retrieving the exact parking place location for determining where the vehicle is parked.~~

19. (Original)The method according to claim 18, which further comprises displaying on the display device a mapping between a current position and the exact parking place location of the vehicle.

20. (Original)The method according to claim 7, which further comprises displaying additional information of an available parking space as a waypoint.

21. (Original)The method according to claim 7, which further comprises providing the display device with an omni directional circular display.

22. (Original)The method according to claim 7, which further comprises forming the display device as a head-up display device projecting onto a vehicle windshield and displaying the empty parking space information via the head-up device.

23. (Original)The method according to claim 21, which further comprises determining a distance to and a direction to an empty parking space with the omni directional circular display.

24. (Original)The method according to claim 7, which further comprises providing the display device with application software for displaying pre-loaded area maps or parking facility floor plans.

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Amendments claim in a clear edited text
Claim Amendments

1. (currently amended)A wireless parking detector, comprising: a radio frequency (RF) sensor for detecting an empty parking space and scanning- the RF sensor wirelessly- directly from the car navigating and or cellular phone .

2. (currently amended)The wireless parking detector according to claim 1, wherein said the parking beacon (tag)transmitter only actively transmitting if said RF sensor detects an actually empty parking space.

3. (currently amended)The wireless parking detector according to claim 1, wherein said RF sensor is one of a plurality of wireless sensors installed in a known location where each of said wireless sensors detects a designated, individual parking space.

4. (currently amended)The wireless detector according to claim 1, wherein said RF sensor can be installed on any place that is designated as a parking space outdoor or indoor.

5. (Original)The wireless sensor according to claim 1, wherein the parking data includes a data ID of a particular parking space.

6. (currently amended)The wireless sensor according to claim 5, wherein the parking ID to includes known address, price, and type of parking selected from the group consisting normal parking and handicap parking.

7. (currently amended)A method for Scanning receiving and displaying parking availability information on at least one display device selected from the group consisting of a vehicle navigation system, a mobile cell phone, and or a Bluetooth enabled device, the method comprises the steps of:scanining the parking sensors tags Directly from a car navigation and or cellular phone, via RF such as wifi or Bluetooth without the need for a central system or database and or internet connections and displaying empty parking space information as a floating overlay on the display device.

8.(original) The method according to claim 7, which further comprises floating the empty parking space information over an existing floor plan.

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9. (Original)The method according to claim 7, wherein the empty parking space information is displayed as a stand alone application without background mapping.

10. (Original)The method according to claim 7, which further comprises displaying the empty parking space information over a facility map, area map, or floor plan downloaded to the display device.

11. (Original)The method according to claim 7, wherein the empty parking space information pertains to navigating a current parking area

12. (currently amended)The method according to claim 11, which further comprises determining a current position of a vehicle based on known positions of the wireless parking sensors to the vehicle..

13. (Original)The method according to claim 12, which further comprises navigating to the current parking area using a mapping facility.

14. (Original)The method according to claim 7, which further comprises producing a parking ticket with an exact location to a park space for a vehicle, the parking ticket being distributed by a parking garage.

15. (Original)The method according to claim 7, which further comprises paying electronically the parking sensor which replaces a parking meter.

16. (Original)The method according to claim 7, wherein the parking sensor automatically debits the display device.

17. (currently amended)The method according to claim 12, which further comprises performing the determining step without an aid of a global positioning satellite system or central database system.

18. (currently amended)The method according to claim 7, which further comprises: registering an exact parking place location of a vehicle on the display device; and subsequently allow Return To Parking- navigating to where the vehicle is parked.

19. (Original)The method according to claim 18, which further comprises displaying on the display device a mapping between a current position and the exact parking place location of the vehicle.

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20. (Original)The method according to claim 7, which further comprises displaying additional information of an available parking space as a waypoint.

21. (Original)The method according to claim 7, which further comprises providing the display device with an omni directional circular display.

22. (Original)The method according to claim 7, which further comprises forming the display device as a head-up display device projecting onto a vehicle windshield and displaying the empty parking space information via the head-up device.

23. (Original)The method according to claim 21, which further comprises determining a distance to and a direction to an empty parking space with the omni directional circular display.

24. (Original)The method according to claim 7, which further comprises providing the display device with application software for displaying pre-loaded area maps or parking facility floor plans.

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Remarks

Reconsideration of the application is requested.

In Mendelson application -United States Patent Application: 0060253226
Mentions :

The examiner reject our claim application above as being anticipated by US 5910782 Schmitt , in our application we IDS Schmitt and mention his application in our application:

[0046] U.S. Pat. No. 5,910,782 to Schmitt et al. ('782 patent) discloses a system for finding available on street parking using an on-board vehicle navigation system and parking meters equipped with sensing devices. According to the '782 patent, real time metered parking space information can be accessed from a central location or directly by a vehicle, upon entering a specific geographic area.

[0048] At present, however, no prior art device utilizes the capabilities to display a real-time representation of an available parking spaces **directly from the sensors without central system.** And without using a GPS system directly to the "user" driver. **Also most of them are for the parking garage or solutions to parking meters area** when our system is **for any places designate as parking space, ether in-door, out door, public or private. Our system based on sensors that detect the empty space where most of the other detect the car . . .**

[0049] **Other depends on a request to be send to a central system or a database for a parking where our system is a direct parking detector from the sensors.**

[0050] Again, most of the existing prior arts are base ether on a GPS system or ether the existing car navigator (depend on a GPS to) And the existing mapping that they use has the same limitation as describe before and therefore practically can't be implements and work.

[0051] We believe that interface to the internet can be a solution only for a remote planning and not a local solution where the driver is looking for a parking NOW!

[0052] We believe that our system method bridge the gap between the GPS based navigation and the existing system and allow to a complete solution.
Project in Parking:

[0056] .....Nor do other projects contemplate the concept of a parking detector with a direct communication between the sensors and the "user" driver in real-time

Google Ex. 1021, p. 183

More over the examiner state that in his patent Schmitte teaches a wireless parking detector comprising a radio freq. (RF) sensor for detecting an empty parking space. But checking searching and counting his PATENT 5910782 words revile .that no WORD such as RF or RF SENSOR MENTION IN HIS INTIRE PATENT as well as Bluetooth or wifi not mention at all ...!!!

Schmitte et al teach an on-board vehicle navigating system to find on-street parking especially for parking meters. in his drawing as well with his claim and patent clearly the parking information send from the parking meter to a central computer system – communication needed and from the central system to the car on-board navigation system. As can be seen in drawing 1 , drawing 2 -220 "parking meter transmitte data to central site.." and Fig. 2 ,240 "transmitte data message to central site.."database in central site ..and in Fig. 3 340,350,360 explain the transimiting to the central site.. as well as Fig 4,410,420,430,440,450 Central site needed and the corner stone of the system.

Our system method is a direct connection between the parking space sensor and the car navigation and or the driver cell phone Via RF wifi or Bluetooth. No server no central system no internet and no GPS needed in our innovation there is not real communication just scanning signal from available RF tags signal - the available parking space.

Going to his claim 1 – "on-board navigation computer that perform the step – transmitting parking request over wireless " .... To central site that collect parking availability from sensor devices ..." sending parking request to central system and the central system collect and monitor the sensors and then send back the information to the car... all describe a central system and sending request to central computer etc..

In our system again NO NEED FOR CENTRAL SYSTEM , NO REQUEST FOR PARKING SEND FROM THE CAR NO COMMUNICATION BETWEEN CENTRAL SYSTEM AND OR INTERNET ..... CLEARLY IT IS NOT COMPARABLE AT ALL TO OUR SYSTEM.

More over we belive that when driver looking for a parking the time is one of the important task and sending parking request from the car to central system to a central database and back to the car is a time consuming task that our system eliminate at all..!!

More over our system contain only RF sensors and no central computer and or GPS or internet and no parking request needed the only task is scanning of RF tags and only the RF tags that installed in a known location indoor and outdoor in any places designated as parking and not limit to parking meters or on-street parking .

More over , our RF tags can interface to the car exsiting navigation and no need to on-board vehicle navigation computer as in Schmitt et al.

Moreover our system and display method is to overlay on the facility floor map
That can download to the car or the cellular phone and will show the exact location of the available parking space.
There is no floor map or parking map mention at all in Schmitt et al.

Our system and method also describe a return to parking navigation when the driver need to locate where he park his car, as mention in our claim 18 and not mention at all in Schmitt patent.

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More over our system design to be able to use cellular phone as a "parking detector" or "parking navigator" via RF- wifi and or Bluetooth, when Schmitt don't mention Bluetooth or wifi or cellular phone , the only mention in his application is the ability to use a portable phone to pay for the parking and not to detect at all..

In review the above mention on In- compatability between our patent innovation application to Schmitte et al , it is asking the examiner to review and allow our patent.

Going to the examiner rejection as anticipate by Squire et al (Squire) US 6970101
Squire in his summary of the invention state:

The present invention relates generally to a system for locating parking spaces and, more specifically, to a parking guidance method for finding an optimal parking space in a parking garage by using evaluation information for each parking space and categorizing the available parking spaces according to customer preference.

"that allows a customer to input criteria the customer feels is important when searching for a parking space.

to provide a parking guidance system that allows a garage operator to weight the input criteria based upon importance so that the customer may find an optimal parking space.

system that allows the garage operator to enter and store evaluation information relating to the individual parking spaces in the database.

provide a parking guidance system that compares the preference information entered by the customer with the descriptive information about individual parking spaces

The present invention overcomes the shortcomings of the prior art by providing a parking guidance system that uses a method that compares customer specific data with data about the parking structure in order to find an optimal parking space for a customer. Additionally, the system provides an output to a customer to allow the customer to quickly find the chosen optimal parking space.

His abstract :

Abstract
A method of matching a vehicle with a vacant parking space in a parking facility having numerous parking spaces. The method includes storing identifying characteristics of each of the parking spaces in a database. To request a parking space, a garage customer inputs data concerning his or her preferences for parking. The inventive method then determines which of the plurality of parking spaces are vacant, matches the data inputted by the user

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with the data identifying characteristics of each of the parking spaces determined to be vacant, and determines which of the parking spaces determined to be vacant most closely matches the data inputted by the user. The closest parking space is reserved for parking by the user

Clearly the intention of Squire et al is a method to store parking need that need to be match in search in central system database to optimal driver request ....

As he mention all over his patent (24 times exactly) their need for central system and central database to process the request by the driver Fig 3 as well in Fig 4 and in more details in Fig 5 of the customer request process and Fig 7 when 100 web server needed and more details in Fig 8 of the central computer 22 include 100 web server 96 database and in Fig 9 the process in the central system.

The examiner mention in his letter that Squire teach at least one display device consisting of a mobile phone , a bluetooth device etc.. when and where the only ONE TIME MENTION BLUETOOTH IN THE PATENT IS MENTION AVALABLE OPTION FOR THE CUTOMER TO RECIVE TICKET OF THE PARKING

"... the forward ticket 29 may be retrieved by the customer from the interface 26 or sent to the customer's email address or, using infrared technology such as bluetooth to his/her cellp hone or a PDA", no wifi no RF sensor no bluetooth sensor as our innovation what he mention is a motion detector or infrared.. and by the way bluetooth is RF and not infrared,

Clearly his system is a method to matching parking request by the drivers (did we say time..??) send from the driver to a central system central computer and central database and clearly out of our main idea in our innovation that it a direct from RF tags represent parking space avlability and the driver navigation and or cellular phone via RF wifi or bluetooth and without need for GPS or central system or central database or internet at all..

Going to Squire et al claims make it even more understandable of his intentions:

In claim 1 Squire state :"

1. A method of matching a vehicle with a vacant parking space of a plurality of parking spaces said method comprising the steps of: a) storing data identifying characteristics of each of said plurality of parking spaces in a database; b) inputting data concerning preferences for parking by a user; c) determining which of said plurality of parking spaces are vacant; d) matching said data input by said user with said data identifying

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characteristics of each of said plurality of parking spaces determined to be vacant; e) determining which of said parking spaces determined to be vacant most closely matches said data input by said user; f) reserving said parking space determined for said user; and g) indicating said parking space is available, if a time limit passes and said parking space is vacant, wherein said time limit is less than a maximum time amount said user is allowed to continuously park in said parking space.

Again , Matching system and method that needed central system and communication between the user and the central system to send request for parking to be match by available parking etc...

Claim 4 – motion detector sensor

Claim 5 infrared sensors..

Claim 6 the sensor control and can be set off by the parking garage ...

Where and when our RF tags are autonomics and not control by the parking garage

claim 11 the size of the car determain at the entrance sensor..

claim 14 mention the parking pool – meaning the central system contain parking pool information in a database to be match to the user request..

when and where in our system there is no database no matching no central system and no request between the driver and the central system..

the only use for telephone interface state in his patent as " the telephone intrface further allows users to reserve parking spaces and charge the cost of the reserved spaces.

When and where our innovation use the cellular phone bluetooth or wifi as a parking detector without need for access central system nor database or internet .

Clearly as he state in his patent " a computer controlled system monitors the sensors and controls the delivery...."

When and where again our method system doesn't need a central system nor central database or internet.

Mention in his system is option for optical adapter to scan the parking spaces and a parking image processing techniques when and where our system utilize the exsiting bluetooth and or wifi in the user cellular phone or the bluetooth interface in the car navigation, no image processing needed.

Clearly Squire method and system intention is by his words and claims and it can be obvious to ordinary skill by READING HIS INTENTION words by words .

Google Ex. 1021, p. 187

In review to the un comparable between mendelson innovation and Squire it is to ask the examiner to approve mendelson innovation application .

Google Ex. 1021, p. 188

Explain about the claims changes on page 4-9 on this document:

Claim 1-24 are fixed as requested by the examiner in his letter paragraph 4 and 5 and

Claims 1 -4 are change and currently amended ,

claims 5- are original

claim 6 and 7 change and currently amended

claim 8-11 are original

claims 12 is change and currently amended

Claims 13-16 are original

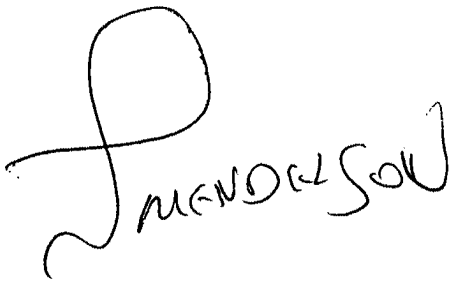
Claims 17-18 change and currently amended

Claims 19-24 are original

Google Ex. 1021, p. 189

Petition for extension is **made and paid**. The extension fee for response within a period of 3 months pursuant to section 1.136(a) in the amount of $555.00 in accordance with section 1.17 is enclosed herewith **was sent and paid.**

Respectfully submitted,



Ehud Mendelson
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Coral Springs , FL 33076
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Email:ehud1@myacc.net
Customer No. 061887

Attached :
Patent office letter from 04/20/2009
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61887 e 04/20/2009

EHUD MENDELSON
GAMBA GROUP LLC
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SUITE 916
CORAL SPRINGS, FL 33076

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RIPE
MAY 19 2009
PATENT & TRADEMARK OFFICE

Paper No.

Application No.:	**11/396,843**	**Date Mailed:**	**04/20/2009**
First Named Inventor:	Mendelson, Ehud,	Examiner:	BEAULIEU, YONEL
Attorney Docket No.:	PD101	Art Unit:	3661
Confirmation No.:	3897	Filing Date:	04/03/2006

Please find attached an Office communication concerning this application or proceeding.

Commissioner for Patents

PTO-90c (Rev.08-06)

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Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No. 11/396,843	Applicant(s) MENDELSON, EHUD
		Art Unit 3700

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

The amendment document filed on *02/24/09* is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

☐ 1. Amendments to the specification:
- ☐ A. Amended paragraph(s) do not include markings.
- ☐ B. New paragraph(s) should not be underlined.
- ☐ C. Other _____.

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☒ 2. Abstract:
- ☒ A. Not presented on a separate sheet. 37 CFR 1.72.
- ☐ B. Other _____.

☐ 3. Amendments to the drawings:
- ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
- ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
- ☐ C. Other _____.

☒ 4. Amendments to the claims:
- ☐ A. A complete listing of all of the claims is not present.
- ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
- ☐ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
- ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
- ☒ E. Other: *Claims can not be page with abstract*.

☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4): For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance, or a drawing submission (only) If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.

2. Applicant is given **one month**, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a Quayle action. If any of above boxes 1 to 4 are checked, the correction required is only the corrected section of the non-compliant amendment in compliance with 37 CFR 1.121.

Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

Failure to timely respond to this notice will result in:

Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or

Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable /EVELYN G. NIMMONS/ Telephone No: (571)272-4378

Google Ex. 1021, p. 192

PTO/SB/06 (07-06)
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/396,843	04/03/2006	

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			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			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 $250 ($125 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			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **05/19/2009**

	(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))	* 24	Minus	** 24	= 0	X $26 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $110 =	0	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	0	OR	TOTAL ADD'L FEE	

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
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 number found in the appropriate box in column 1.

Legal Instrument Examiner:
/SHARAIN MORELAND/

This collection of information is required by 37 CFR 1.16. 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, 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.**

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EHUD MENDELSON
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CORAL SPRINGS, FL 33076

Paper No.

Application No.:	**11/396,843**	**Date Mailed:**	**04/20/2009**
First Named Inventor:	Mendelson, Ehud,	Examiner:	BEAULIEU, YONEL
Attorney Docket No.:	PD101	Art Unit:	3661
Confirmation No.:	3897	Filing Date:	04/03/2006

Please find attached an Office communication concerning this application or proceeding.

Commissioner for Patents

PTO-90c (Rev.08-06)

Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No. 11/396,843	Applicant(s) MENDELSON, EHUD	
		Art Unit 3700	

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THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
  - ☐ A. Amended paragraph(s) do not include markings.
  - ☐ B. New paragraph(s) should not be underlined.
  - ☐ C. Other _____.
- ☒ 2. Abstract:
  - ☒ A. Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B. Other _____.
- ☐ 3. Amendments to the drawings:
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  - ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
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   Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or
   Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable /EVELYN G. NIMMONS/ Telephone No: (571)272-4378

PTO/SB/06 (07-06)
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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	Filing Date	☐ To be Mailed
11/396,843	04/03/2006	

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 ($)	OTHER THAN SMALL ENTITY FEE ($)
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☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
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INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
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☐ 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			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 02/24/2009

	(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 ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
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☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
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☐ 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	

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*** 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.

Legal Instrument Examiner:
/EVELYN G. NIMMONS/

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Response to office action
Amendment

Mail stop fee amendment
Hon. Commission for patents
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Alexandria,VA 22313-1450
"Express Mail" mailing label number : 625367313 US
Sunday, February 22, 2009

Sir, Madam:

Responsive to the office action dated Aug. 25, 2008 Kindly amend the above – identified application as follows:

Amendments to the specification begin on page 1 of this paper.

Amendments to the claims begin on page 2 of this paper.

Remarks/Arguments begin on page 8 of this paper.

Please update in the publishing :the application claim the benefit of 60/670,097 Filed April 12, 2005.

Specification Amendments

Please replace the abstract of the disclosure, with the following amended abstract of the disclosure:

The parking detection system method described herein could guide people around urban environments detect guide and navigate them to empty parking spaces, add-on to the car-based navigation systems ~~that are popular today~~ and or to the ~~portable~~ cellular phone. We have focused on the task of detecting and navigating even in situations in which Global Positioning Systems (GPS) cannot provide this information, such as when the person is indoors or in crowded urban areas where there is no line of site to the GPS satellites and without the need for central computer system or internet connections.
The parking information will be received directly from RF sensors and will display as a floating overlay on the existing navigation system and or cellular phone as Bluetooth application.

Google Ex. 1021, p. 197

Abstract of the disclosure

The parking detection system method described herein could guide people around urban environments detect guide and navigate them to empty parking spaces, add-on to the car-based navigation systems and or to the cellular phone. We have focused on the task of detecting and navigating even in situations in which Global Positioning Systems (GPS) cannot provide this information, such as when the person is indoors or in crowded urban areas where there is no line of site to the GPS satellites and without the need for central computer system or internet connections. The parking information will be received directly from RF sensors and will display as a floating overlay on the existing navigation system and or cellular phone as Bluetooth application.

Claim Amendments

1. (currently amended)A wireless parking detector, comprising: a radio frequency (RF) sensor for detecting an empty parking space and ~~outputting parking data; and a transmitter receiving~~ scanning~~-~~ the ~~parking data from said~~ RF sensor ~~and~~ wirelessly ~~transmitting the parking data.~~ directly from the car navigating and or cellular phone .

2. (currently amended)The wireless parking detector according to claim 1, wherein said the parking beacon (tag)transmitter only actively transmitting if said RF sensor detects an actually empty parking space.

3. (currently amended)The wireless parking detector according to claim 1, wherein said RF sensor is one of a plurality of wireless sensors installed in a known location ~~defining a network~~ where each of said wireless sensors detects a designated, individual parking space.

4. (currently amended)The wireless detector according to claim 1, wherein said RF sensor can be installed on any place that is designated as a parking space outdoor or indoor.

5. (Original)The wireless sensor according to claim 1, wherein the parking data includes a data ID of a particular parking space.

Google Ex. 1021, p. 198

6. (currently amended)The wireless sensor according to claim 5, wherein the parking ID ~~data~~ to includes known address ~~data~~, price ~~data~~, and type of parking ~~data~~ selected from the group consisting normal parking and handicap parking.

7. (currently amended)A method for Scanning receiving and displaying parking availability information on at least one display device selected from the group consisting of a vehicle ~~on-board~~ navigation system, a mobile cell phone, and or a Bluetooth enabled device, the method comprises the steps of:scanining the parking sensors tags ~~receiving parking space data~~ Directly from a car navigation and or cellular phone ~~parking sensor~~, via RF such as wifi or Bluetooth without the need for a central system or database and or internet connections ~~the parking space data including positional data, price data, and type of parking availability data selected from the group consisting of normal parking and handicap parking;~~ and displaying empty parking space information as a floating overlay on the display device.

8.(original) The method according to claim 7, which further comprises floating the empty parking space information over an existing floor plan.

9. (Original)The method according to claim 7, wherein the empty parking space information is displayed as a stand alone application without background mapping.

10. (Original)The method according to claim 7, which further comprises displaying the empty parking space information over a facility map, area map, or floor plan downloaded to the display device.

11. (Original)The method according to claim 7, wherein the empty parking space information pertains to navigating a current parking area

12. (currently amended)The method according to claim 11, which further comprises determining a current position of a vehicle ~~by a triangulation calculation~~ based on known positions of ~~a plurality of~~ the wireless parking sensors to the vehicle.~~detecting the vehicle~~.

13. (Original)The method according to claim 12, which further comprises navigating to the current parking area using a mapping facility.

Google Ex. 1021, p. 199

14. (Original)The method according to claim 7, which further comprises producing a parking ticket with an exact location to a park space for a vehicle, the parking ticket being distributed by a parking garage.

15. (Original)The method according to claim 7, which further comprises paying electronically the parking sensor which replaces a parking meter.

16. (Original)The method according to claim 7, wherein the parking sensor automatically debits the display device.

17. (currently amended)The method according to claim 12, which further comprises performing the determining step without an aid of a global positioning satellite system or central database system.

18. (currently amended)The method according to claim 7, which further comprises: registering an exact parking place location of a vehicle on the display device; and subsequently allow Return To Parking- navigating to where the vehicle is parked.~~retrieving the exact parking place location for determining where the vehicle is parked.~~

19. (Original)The method according to claim 18, which further comprises displaying on the display device a mapping between a current position and the exact parking place location of the vehicle.

20. (Original)The method according to claim 7, which further comprises displaying additional information of an available parking space as a waypoint.

21. (Original)The method according to claim 7, which further comprises providing the display device with an omni directional circular display.

22. (Original)The method according to claim 7, which further comprises forming the display device as a head-up display device projecting onto a vehicle windshield and displaying the empty parking space information via the head-up device.

23. (Original)The method according to claim 21, which further comprises determining a distance to and a direction to an empty parking space with the omni directional circular display.

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24. (Original)The method according to claim 7, which further comprises providing the display device with application software for displaying pre-loaded area maps or parking facility floor plans.

Amendments claim in a clear edited text
Claim Amendments

1. (currently amended)A wireless parking detector, comprising: a radio frequency (RF) sensor for detecting an empty parking space and scanning- the RF sensor wirelessly- directly from the car navigating and or cellular phone .

2. (currently amended)The wireless parking detector according to claim 1, wherein said the parking beacon (tag)transmitter only actively transmitting if said RF sensor detects an actually empty parking space.

3. (currently amended)The wireless parking detector according to claim 1, wherein said RF sensor is one of a plurality of wireless sensors installed in a known location where each of said wireless sensors detects a designated, individual parking space.

4. (currently amended)The wireless detector according to claim 1, wherein said RF sensor can be installed on any place that is designated as a parking space outdoor or indoor.

5. (Original)The wireless sensor according to claim 1, wherein the parking data includes a data ID of a particular parking space.

6. (currently amended)The wireless sensor according to claim 5, wherein the parking ID to includes known address, price, and type of parking selected from the group consisting normal parking and handicap parking.

7. (currently amended)A method for Scanning receiving and displaying parking availability information on at least one display device selected from the group consisting of a vehicle navigation system, a mobile cell phone, and or a Bluetooth enabled device, the method comprises the steps of:scanining the parking sensors tags Directly from a car navigation and or cellular phone, via RF such as wifi or Bluetooth without the need for a central system or database and or internet connections and displaying empty parking space information as a floating overlay on the display device.

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8.(original) The method according to claim 7, which further comprises floating the empty parking space information over an existing floor plan.

9. (Original)The method according to claim 7, wherein the empty parking space information is displayed as a stand alone application without background mapping.

10. (Original)The method according to claim 7, which further comprises displaying the empty parking space information over a facility map, area map, or floor plan downloaded to the display device.

11. (Original)The method according to claim 7, wherein the empty parking space information pertains to navigating a current parking area

.

12. (currently amended)The method according to claim 11, which further comprises determining a current position of a vehicle based on known positions of the wireless parking sensors to the vehicle..

13. (Original)The method according to claim 12, which further comprises navigating to the current parking area using a mapping facility.

14. (Original)The method according to claim 7, which further comprises producing a parking ticket with an exact location to a park space for a vehicle, the parking ticket being distributed by a parking garage.

15. (Original)The method according to claim 7, which further comprises paying electronically the parking sensor which replaces a parking meter.

16. (Original)The method according to claim 7, wherein the parking sensor automatically debits the display device.

17. (currently amended)The method according to claim 12, which further comprises performing the determining step without an aid of a global positioning satellite system or central database system.

18. (currently amended)The method according to claim 7, which further comprises: registering an exact parking place location of a vehicle on the display device; and subsequently allow Return To Parking- navigating to where the vehicle is parked.

Google Ex. 1021, p. 202

19. (Original)The method according to claim 18, which further comprises displaying on the display device a mapping between a current position and the exact parking place location of the vehicle.

20. (Original)The method according to claim 7, which further comprises displaying additional information of an available parking space as a waypoint.

21. (Original)The method according to claim 7, which further comprises providing the display device with an omni directional circular display.

22. (Original)The method according to claim 7, which further comprises forming the display device as a head-up display device projecting onto a vehicle windshield and displaying the empty parking space information via the head-up device.

23. (Original)The method according to claim 21, which further comprises determining a distance to and a direction to an empty parking space with the omni directional circular display.

24. (Original)The method according to claim 7, which further comprises providing the display device with application software for displaying pre-loaded area maps or parking facility floor plans.

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Remarks

Reconsideration of the application is requested.

In Mendelson application -United States Patent Application: 0060253226
Mentions :

The examiner reject our claim application above as being anticipated by US 5910782 Schmitt , in our application we IDS Schmitt and mention his application in our application:

[0046] U.S. Pat. No. 5,910,782 to Schmitt et al. ('782 patent) discloses a system for finding available on street parking using an on-board vehicle navigation system and parking meters equipped with sensing devices. According to the '782 patent, real time metered parking space information can be accessed from a central location or directly by a vehicle, upon entering a specific geographic area.

[0048] At present, however, no prior art device utilizes the capabilities to display a real-time representation of an available parking spaces **directly from the sensors without central system.** And without using a GPS system directly to the "user" driver. **Also most of them are for the parking garage or solutions to parking meters area** when our system is **for any places designate as parking space, ether in-door, out door, public or private. Our system based on sensors that detect the empty space where most of the other detect the car . . .**

[0049] **Other depends on a request to be send to a central system or a database for a parking where our system is a direct parking detector from the sensors.**

[0050] Again, most of the existing prior arts are base ether on a GPS system or ether the existing car navigator (depend on a GPS to) And the existing mapping that they use has the same limitation as describe before and therefore practically can't be implements and work.

[0051] We believe that interface to the internet can be a solution only for a remote planning and not a local solution where the driver is looking for a parking NOW!

[0052] We believe that our system method bridge the gap between the GPS based navigation and the existing system and allow to a complete solution.
Project in Parking:

[0056] .....Nor do other projects contemplate the concept of a parking detector with a direct communication between the sensors and the "user" driver in real-time

More over the examiner state that in his patent Schmitte teaches a wireless parking detector comprising a radio freq. (RF) sensor for detecting an empty parking space. But checking searching and counting his

Google Ex. 1021, p. 204

PATENT 5910782 words revile .that no WORD such as RF or RF SENSOR MENTION IN HIS INTIRE PATENT as well as Bluetooth or wifi not mention at all ...!!!

Schmitte et al teach an on-board vehicle navigating system to find on-street parking especially for parking meters. in his drawing as well with his claim and patent clearly the parking information send from the parking meter to a central computer system – communication needed and from the central system to the car on-board navigation system. As can be seen in drawing 1 , drawing 2 -220 "parking meter transmitte data to central site.." and Fig. 2 ,240 "transmitte data message to central site.."database in central site ..and in Fig. 3 340,350,360 explain the transimiting to the central site.. as well as Fig 4,410,420,430,440,450 Central site needed and the corner stone of the system.

Our system method is a direct connection between the parking space sensor and the car navigation and or the driver cell phone Via RF wifi or Bluetooth. No server no central system no internet and no GPS needed in our innovation there is not real communication just scanning signal from available RF tags signal - the available parking space.

Going to his claim 1 – "on-board navigation computer that perform the step – transmitting parking request over wireless " .... To central site that collect parking availability from sensor devices ..." sending parking request to central system and the central system collect and monitor the sensors and then send back the information to the car... all describe a central system and sending request to central computer etc..

In our system again NO NEED FOR CENTRAL SYSTEM , NO REQUEST FOR PARKING SEND FROM THE CAR NO COMMUNICATION BETWEEN CENTRAL SYSTEM AND OR INTERNET ..... CLEARLY IT IS NOT COMPARABLE AT ALL TO OUR SYSTEM.

More over we belive that when driver looking for a parking the time is one of the important task and sending parking request from the car to central system to a central database and back to the car is a time consuming task that our system eliminate at all..!!

More over our system contain only RF sensors and no central computer and or GPS or internet and no parking request needed the only task is scanning of RF tags and only the RF tags that installed in a known location indoor and outdoor in any places designated as parking and not limit to parking meters or on-street parking .

More over , our RF tags can interface to the car exsiting navigation and no need to on-board vehicle navigation computer as in Schmitt et al.

Moreover our system and display method is to overlay on the facility floor map
That can download to the car or the cellular phone and will show the exact location of the available parking space.
There is no floor map or parking map mention at all in Schmitt et al.

Our system and method also describe a return to parking navigation when the driver need to locate where he park his car, as mention in our claim 18 and not mention at all in Schmitt patent.

Google Ex. 1021, p. 205

More over our system design to be able to use cellular phone as a "parking detector" or "parking navigator" via RF- wifi and or Bluetooth, when Schmitt don't mention Bluetooth or wifi or cellular phone , the only mention in his application is the ability to use a portable phone to pay for the parking and not to detect at all..

In review the above mention on In- compatability between our patent innovation application to Schmitte et al , it is asking the examiner to review and allow our patent.

Going to the examiner rejection as anticipate by Squire et al (Squire) US 6970101
Squire in his summary of the invention state:

The present invention relates generally to a system for locating parking spaces and, more specifically, to a parking guidance method for finding an optimal parking space in a parking garage by using evaluation information for each parking space and categorizing the available parking spaces according to customer preference.

"that allows a customer to input criteria the customer feels is important when searching for a parking space.

to provide a parking guidance system that allows a garage operator to weight the input criteria based upon importance so that the customer may find an optimal parking space.

system that allows the garage operator to enter and store evaluation information relating to the individual parking spaces in the database.

provide a parking guidance system that compares the preference information entered by the customer with the descriptive information about individual parking spaces

The present invention overcomes the shortcomings of the prior art by providing a parking guidance system that uses a method that compares customer specific data with data about the parking structure in order to find an optimal parking space for a customer. Additionally, the system provides an output to a customer to allow the customer to quickly find the chosen optimal parking space.

His abstract :

Abstract
A method of matching a vehicle with a vacant parking space in a parking facility having numerous parking spaces. The method includes storing identifying characteristics of each of the parking spaces in a database. To request a parking space, a garage customer inputs data concerning his or her preferences for parking. The inventive method then determines which of the plurality of parking spaces are vacant, matches the data inputted by the user with the data identifying characteristics of each of the parking spaces determined to be

Google Ex. 1021, p. 206

vacant, and determines which of the parking spaces determined to be vacant most closely matches the data inputted by the user. The closest parking space is reserved for parking by the user

Clearly the intention of Squire et al is a method to store parking need that need to be match in search in central system database to optimal driver request ....

As he mention all over his patent (24 times exactly) their need for central system and central database to process the request by the driver Fig 3 as well in Fig 4 and in more details in Fig 5 of the customer request process and Fig 7 when 100 web server needed and more details in Fig 8 of the central computer 22 include 100 web server 96 database and in Fig 9 the process in the central system.

The examiner mention in his letter that Squire teach at least one display device consisting of a mobile phone , a bluetooth device etc.. when and where the only ONE TIME MENTION BLUETOOTH IN THE PATENT IS MENTION AVALABLE OPTION FOR THE CUTOMER TO RECIVE TICKET OF THE PARKING

"... the forward ticket 29 may be retrieved by the customer from the interface 26 or sent to the customer's email address or, using infrared technology such as bluetooth to his/her cellp hone or a PDA", no wifi no RF sensor no bluetooth sensor as our innovation what he mention is a motion detector or infrared.. and by the way bluetooth is RF and not infrared,

Clearly his system is a method to matching parking request by the drivers (did we say time..??) send from the driver to a central system central computer and central database and clearly out of our main idea in our innovation that it a direct from RF tags represent parking space avlability and the driver navigation and or cellular phone via RF wifi or bluetooth and without need for GPS or central system or central database or internet at all..

Going to Squire et al claims make it even more understandable of his intentions:

In claim 1 Squire state :"

1. A method of matching a vehicle with a vacant parking space of a plurality of parking spaces said method comprising the steps of: a) storing data identifying characteristics of each of said plurality of parking spaces in a database; b) inputting data concerning preferences for parking by a user; c) determining which of said plurality of parking spaces are vacant; d) matching said data input by said user with said data identifying characteristics of each of said plurality of parking spaces determined to be vacant; e) determining which of said parking spaces determined to be vacant most closely matches

Google Ex. 1021, p. 207

said data input by said user; f) reserving said parking space determined for said user; and g) indicating said parking space is available, if a time limit passes and said parking space is vacant, wherein said time limit is less than a maximum time amount said user is allowed to continuously park in said parking space.

Again , Matching system and method that needed central system and communication between the user and the central system to send request for parking to be match by available parking etc...

Claim 4 – motion detector sensor

Claim 5 infrared sensors..

Claim 6 the sensor control and can be set off by the parking garage ...

Where and when our RF tags are autonomics and not control by the parking garage

claim 11 the size of the car determain at the entrance sensor..

claim 14 mention the parking pool – meaning the central system contain parking pool information in a database to be match to the user request..

when and where in our system there is no database no matching no central system and no request between the driver and the central system..

the only use for telephone interface state in his patent as " the telephone intrface further allows users to reserve parking spaces and charge the cost of the reserved spaces.

When and where our innovation use the cellular phone bluetooth or wifi as a parking detector without need for access central system nor database or internet .

Clearly as he state in his patent " a computer controlled system monitors the sensors and controls the delivery...."

When and where again our method system doesn't need a central system nor central database or internet.

Mention in his system is option for optical adapter to scan the parking spaces and a parking image processing techniques when and where our system utilize the exsiting bluetooth and or wifi in the user cellular phone or the bluetooth interface in the car navigation, no image processing needed.

Clearly Squire method and system intention is by his words and claims and it can be obvious to ordinary skill by READING HIS INTENTION words by words .

Google Ex. 1021, p. 208

In review to the un comparable between mendelson innovation and Squire it is to ask the examiner to approve mendelson innovation application .

Google Ex. 1021, p. 209

Explain about the claims changes on page 2-7 on this document:

Claim 1-24 are fixed as requested by the examiner in his letter paragraph 4 and 5 and

Claims 1 -4 are change and currently amended ,

claims 5- are original

claim 6 and 7 change and currently amended

claim 8-11 are original

claims 12 is change and currently amended

Claims 13-16 are original

Claims 17-18 change and currently amended

Claims 19-24 are original

Google Ex. 1021, p. 210

Petition for extension is herewith made. The extension fee for response within a period of 3 months pursuant to section 1.136(a) in the amount of $555.00 in accordance with section 1.17 is enclosed herewith.

Respectfully submitted,

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Customer No. 061887

Attached :
examiner cover letter conf#:3897 mail 08/25/2008
Pages with notes from Us patent 5910782 Schmitt
Pages with notes from Us patent 6970101 Squire
Certificate of mailing
Transmittal Form
Petition for Extension of time
Extension fee

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US005910782A

United States Patent [19]

Schmitt et al.

[11] Patent Number: 5,910,782

[45] Date of Patent: Jun. 8, 1999

[54] **ON-BOARD VEHICLE PARKING SPACE FINDER SERVICE**

[75] Inventors: **Judith E. Schmitt; John E. Buchalo,** both of Palatine, Ill.

[73] Assignee: **Motorola, Inc.,** Schaumburg, Ill.

[21] Appl. No.: **08/805,536**

[22] Filed: **Feb. 25, 1997**

[51] **Int. Cl.**[6] **G08G 1/123**

[52] **U.S. Cl.** **340/995**; 340/932.2; 340/988; 340/990; 340/539; 701/202; 701/207; 701/209; 701/211

[58] **Field of Search** 340/995, 932.2, 340/988, 990, 309.15, 539, 825.54, 825.49; 364/467, 444.1, 443, 436, 444.2, 449.2, 449.5, 448; 235/384; 194/214, 211, 902; 283/102

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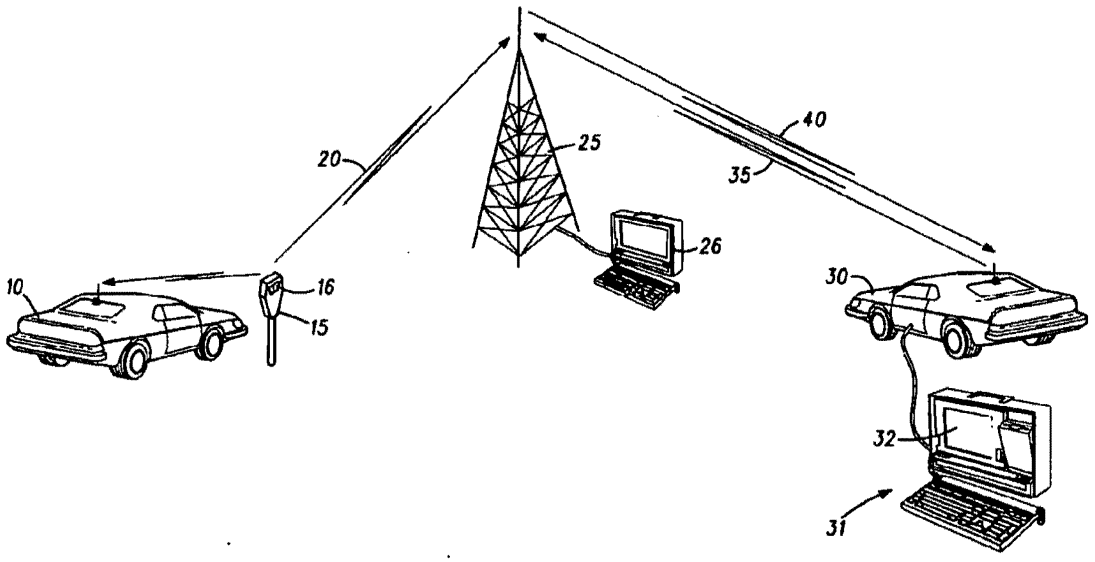
English Ti, AB for DE 4433982 C1, WPIDS Copyright 1997 Derwent Information LTD (one page).

Primary Examiner—Jeffery A. Hofsass
Assistant Examiner—Benjamin C. Lee
Attorney, Agent, or Firm—George C. Pappas

[57] **ABSTRACT**

An on-board vehicle navigation system parking space finder that offers a driver a competitive edge in finding available on-street parking. Drivers not familiar with an area are able to locate available metered parking spaces with ease. Drivers may be informed, on demand, of what type of currency they need for parking meters in certain areas, so they can stop for change, if necessary. Drivers will have information about maximum time limits for different parking meters, and can use this information to select meters with longer time limits, if necessary. Metered parking information specific to a vehicles current location, as well as metered parking information specific to a requested location, are made optionally available to drivers from within their vehicles.

21 Claims, 4 Drawing Sheets



ON STREET PARKING INDOOR ?2.2. PARKING-METER ONLY

CENTRAL SYSTEM NEEDED

COMMUNICATION NEEDED

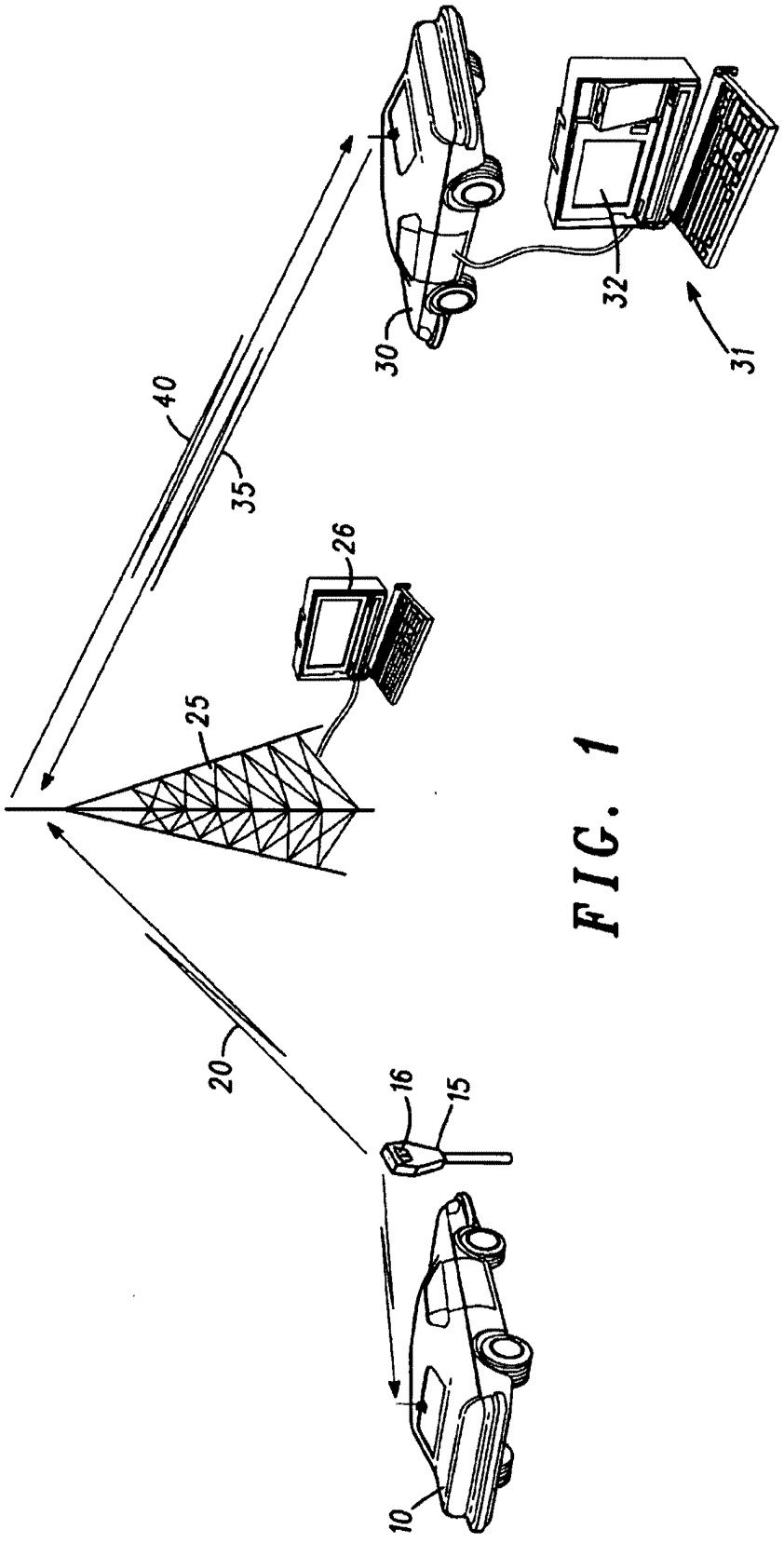


FIG. 1

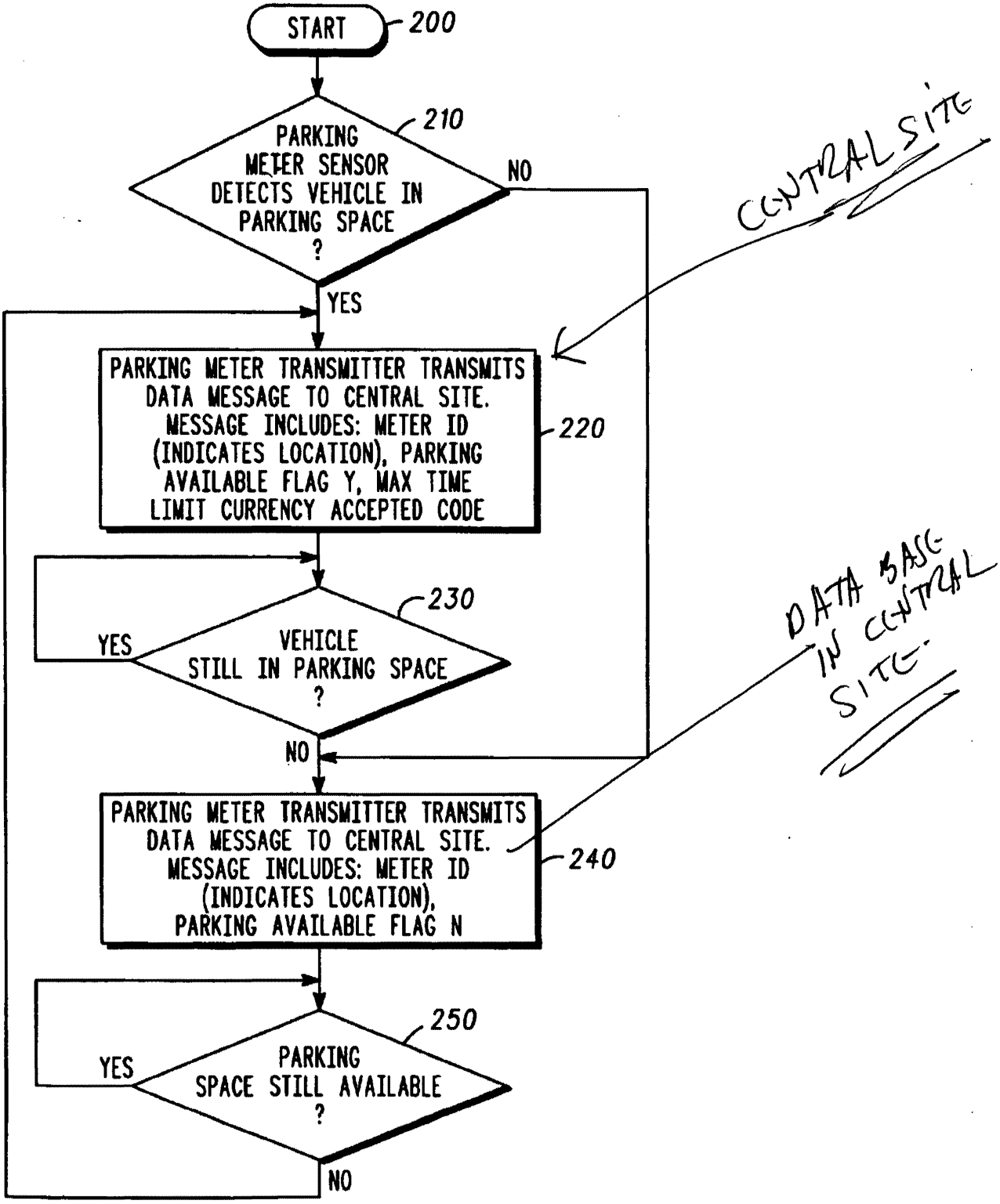

START
200
PARKING METER SENSOR DETECTS VEHICLE IN PARKING SPACE ?
210
NO
YES
PARKING METER TRANSMITTER TRANSMITS DATA MESSAGE TO CENTRAL SITE. MESSAGE INCLUDES: METER ID (INDICATES LOCATION), PARKING AVAILABLE FLAG Y, MAX TIME LIMIT CURRENCY ACCEPTED CODE
220
VEHICLE STILL IN PARKING SPACE ?
230
YES
NO
PARKING METER TRANSMITTER TRANSMITS DATA MESSAGE TO CENTRAL SITE. MESSAGE INCLUDES: METER ID (INDICATES LOCATION), PARKING AVAILABLE FLAG N
240
PARKING SPACE STILL AVAILABLE ?
250
YES
NO
CENTRAL SITE
DATA BASE IN CENTRAL SITE

FIG. 2

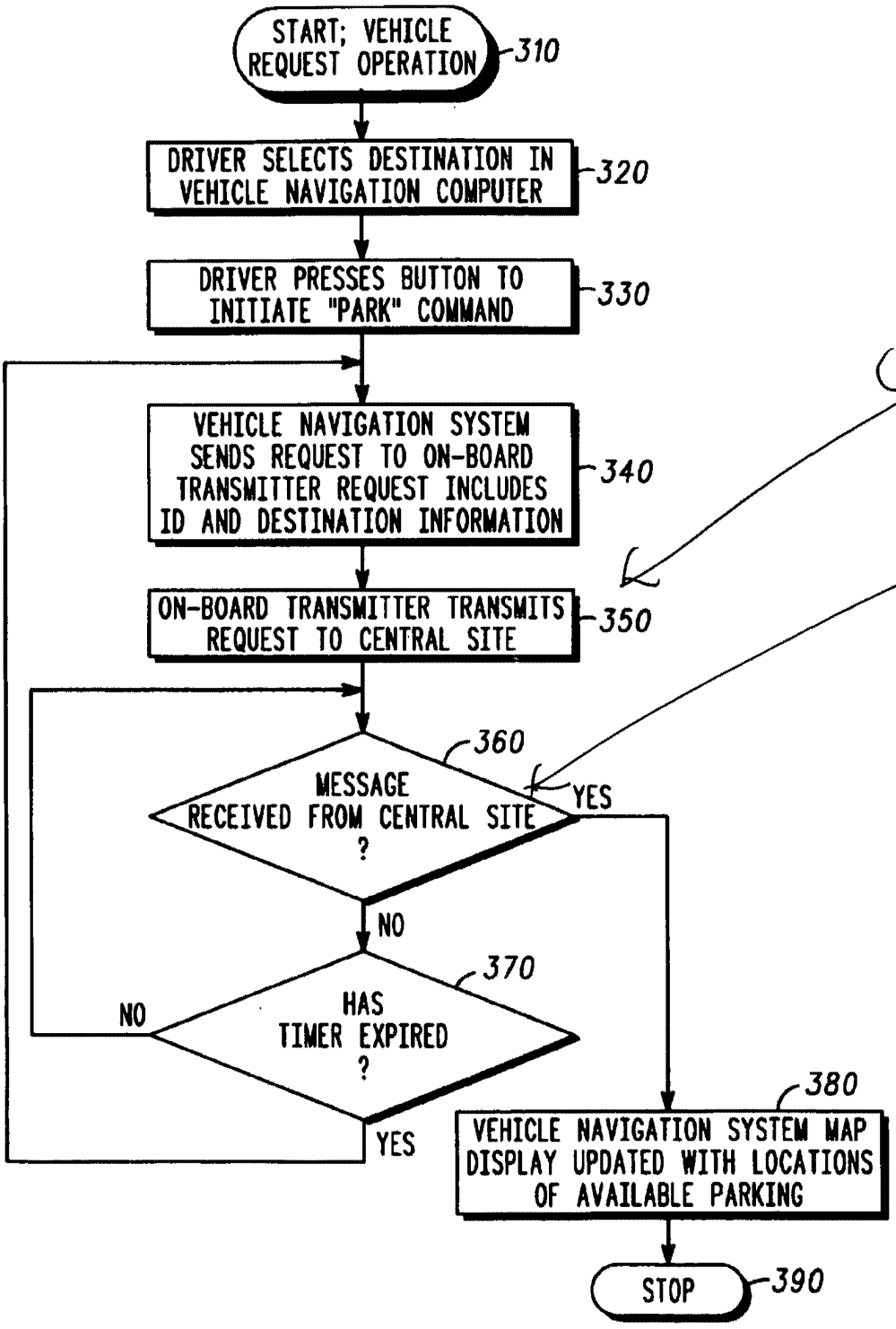

START; VEHICLE REQUEST OPERATION
310
DRIVER SELECTS DESTINATION IN VEHICLE NAVIGATION COMPUTER
320
DRIVER PRESSES BUTTON TO INITIATE "PARK" COMMAND
330
VEHICLE NAVIGATION SYSTEM SENDS REQUEST TO ON-BOARD TRANSMITTER REQUEST INCLUDES ID AND DESTINATION INFORMATION
340
ON-BOARD TRANSMITTER TRANSMITS REQUEST TO CENTRAL SITE
350
360
MESSAGE RECEIVED FROM CENTRAL SITE ?
YES
NO
370
HAS TIMER EXPIRED ?
NO
YES
380
VEHICLE NAVIGATION SYSTEM MAP DISPLAY UPDATED WITH LOCATIONS OF AVAILABLE PARKING
STOP
390
CENTRAL SITE
CENTRAL SITE

FIG. 3

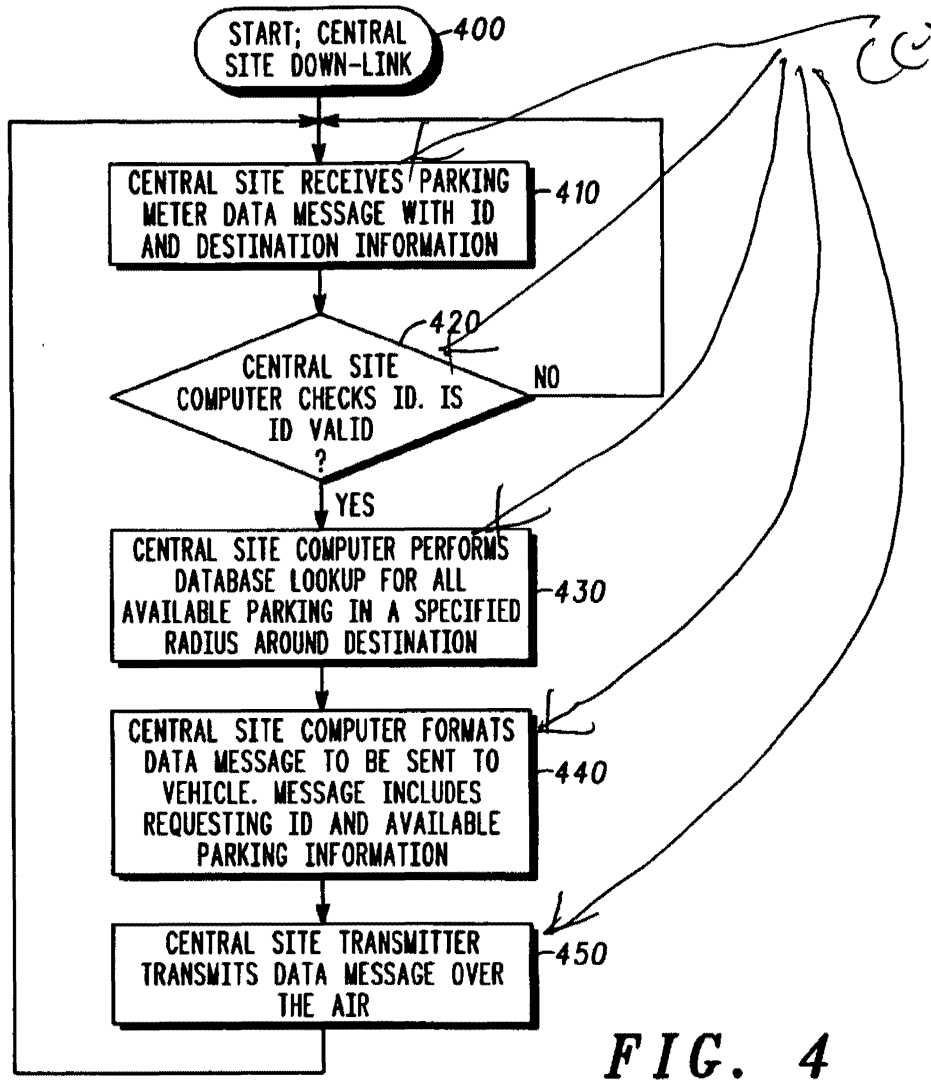


FIG. 4

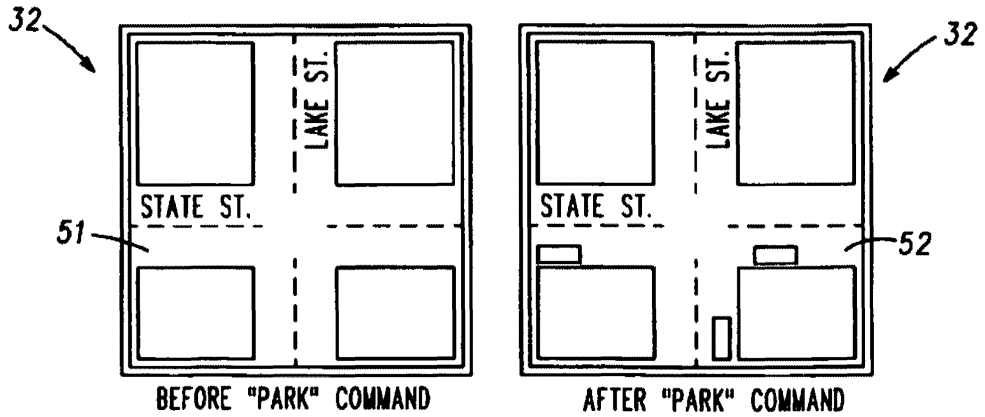


FIG. 5

Google Ex. 1021, p. 216

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

Home | Quick | Advanced | Pat Num | Help

Bottom

View Cart | Add to Cart

Images

United States Patent **5,910,782**
Schmitt , et al. **June 8, 1999**

On-board vehicle parking space finder service

Abstract

An on-board vehicle navigation system parking space finder that offers a driver a competitive edge in finding available on-street parking. Drivers not familiar with an area are able to locate available metered parking spaces with ease. Drivers may be informed, on demand, of what type of currency they need for parking meters in certain areas, so they can stop for change, if necessary. Drivers will have information about maximum time limits for different parking meters, and can use this information to select meters with longer time limits, if necessary. Metered parking information specific to a vehicles current location, as well as metered parking information specific to a requested location, are made optionally available to drivers from within their vehicles.

Inventors: **Schmitt; Judith E.** (Palatine, IL), **Buchalo; John E.** (Palatine, IL)
Assignee: **Motorola, Inc.** (Schaumburg, IL)
Appl. No.: **08/805,536**
Filed: **February 25, 1997**

Current U.S. Class:	**340/995.12** ; 340/539.1; 340/932.2; 340/988; 340/990; 340/995.24; 701/202; 701/207; 701/209; 701/211
Current International Class:	G08G 1/14 (20060101); G08G 001/123 ()
Field of Search:	340/995,932.2,988,990,309.15,539,825.54,825.49 364/467,444.1,443,436,444.2,449.2,449.5,448 235/384 194/214,211,902 283/102

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Other References

English Ti, AB for DE 4433982 C1, WPIDS Copyright 1997 Derwent Information LTD (one page)..

Primary Examiner: Hofsass; Jeffery A.
Assistant Examiner: Lee; Benjamin C.
Attorney, Agent or Firm: Pappas; George C.

Claims

We claim:

1. A method of delivering parking availability information to a driver in a vehicle equipped with an on-board navigational computer, the method comprising the on-board navigational computer performed steps of:

receiving a driver request to initiate a parking availability request;

transmitting the parking availability request over a wireless medium to a central site;

receiving a response message representative of current parking availability information in a geographic area from the central site, the central site collecting parking availability information transmitted from sensor devices monitoring associated parking spaces, said parking spaces comprising at least one on-street parking space; and

generating navigational information as a function of said parking availability information to assist the driver in locating an available parking space.

2. The method of claim 1, wherein said geographic area is an area specific to a driver requested location.

3. The method of claim 1, wherein said geographic area is an area specific to a current

location of the vehicle.

4. The method of claim 1, wherein said navigational information is navigational maps of the geographic area and includes positional information of currently available parking spaces.

5. The method of claim 1, wherein said parking availability request and said response message include vehicle identification information.

6. The method of claim 1, wherein said parking availability request includes information of a current position of the vehicle.

7. The method of claim 1, wherein said parking availability information includes an availability status of parking meters in the geographic area.

8. The method of claim 7, wherein said parking availability information further includes form of payment information about at least available ones of said parking meters.

9. The method of claim 7, wherein said parking availability information further includes maximum time limit information about at least available ones of said parking meters.

10. The method of claim 7, wherein said parking availability information further includes specific parking provisions for associated parking meters.

11. A method of delivering parking availability information to a driver in a vehicle equipped with an on-board navigational computer, the method comprising the on-board navigational computer performed steps of:

receiving a driver request to initiate a parking availability request;

CENTRAL SITE

in response to said parking availability request, detecting current parking availability information for at least one geographic area transmitted over a wireless medium from a central site, the central cite collecting parking availability information transmitted from sensor devices monitoring associated parking spaces, said parking spaces comprising at least one on-street parking space; and

generating navigational information as a function of said parking availability information to assist the driver in locating an available parking space.

12. The method of claim 11, wherein said at least one geographic area is an area specific to a current location of the vehicle.

13. The method of claim 11, wherein said navigational information is navigational maps of the geographic area and includes positional information of currently available parking spaces.

14. The method of claim 11, wherein said parking availability information includes an availability status of parking meters in said at least one geographic area.

15. The method of claim 14, wherein said parking availability information further includes at least one of form of payment information, maximum time limit information, and specific parking provisions about at least available ones of said parking meters.

16. In a central site including a central site computer, a method of generating parking availability information to a driver in a vehicle equipped with an on-board navigational computer, the method comprising the central site computer performed steps of:

receiving parking availability information transmitted from sensor devices monitoring associated parking spaces, said parking spaces comprising at least one on-street parking space;

maintaining a database of current parking availability information as a function of at least one geographic area; and

transmitting, over a wireless medium, navigational information representative of said current parking availability information to assist the driver in locating an available parking space.

17. The method of claim 16, wherein said step of transmitting navigational information is in response to a parking availability request from the vehicle.

18. The method of claim 16, wherein said step of transmitting navigational information occurs at constant time intervals.

19. The method of claim 16, wherein said current parking availability information includes an availability status of parking meters in said at least one geographic area.

20. The method of claim 19, wherein said parking availability information further includes at least one of form of payment information, maximum time limit information, and specific parking provisions about at least available ones of said parking meters.

21. A method of delivering parking availability information to a driver in a vehicle equipped with an on-board navigational computer, the method comprising the on-board navigational computer performed steps of:

receiving a driver request to initiate a parking availability request;

in response to said parking availability request, detecting current parking availability information, transmitted over a wireless medium, from each of plural parking meters having a respective associated sensor device for monitoring corresponding parking spaces in proximate location to the vehicle, said parking spaces comprising at least one on-street parking space; and

generating navigational information as a function of said parking availability information to assist the driver in locating an available parking space.

Description

FIELD OF THE INVENTION

This invention is directed generally to the field of vehicle navigation systems and remote data acquisition systems, and more particularly, to such systems for use in finding available parking spaces.

US006970101B1

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

(10) **Patent No.: US 6,970,101 B1**
(45) **Date of Patent: Nov. 29, 2005**

(54) **PARKING GUIDANCE METHOD AND SYSTEM**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 133 days.

(21) Appl. No.: **10/419,375**

(22) Filed: **Apr. 21, 2003**

(51) **Int. Cl.**[7] **B60Q 1/48**
(52) **U.S. Cl.** **340/932.2**; 340/933; 340/309.16; 705/13
(58) **Field of Search** 340/932.2, 942, 340/525, 928, 309.16, 933; 701/117; 235/90; 705/13, 418

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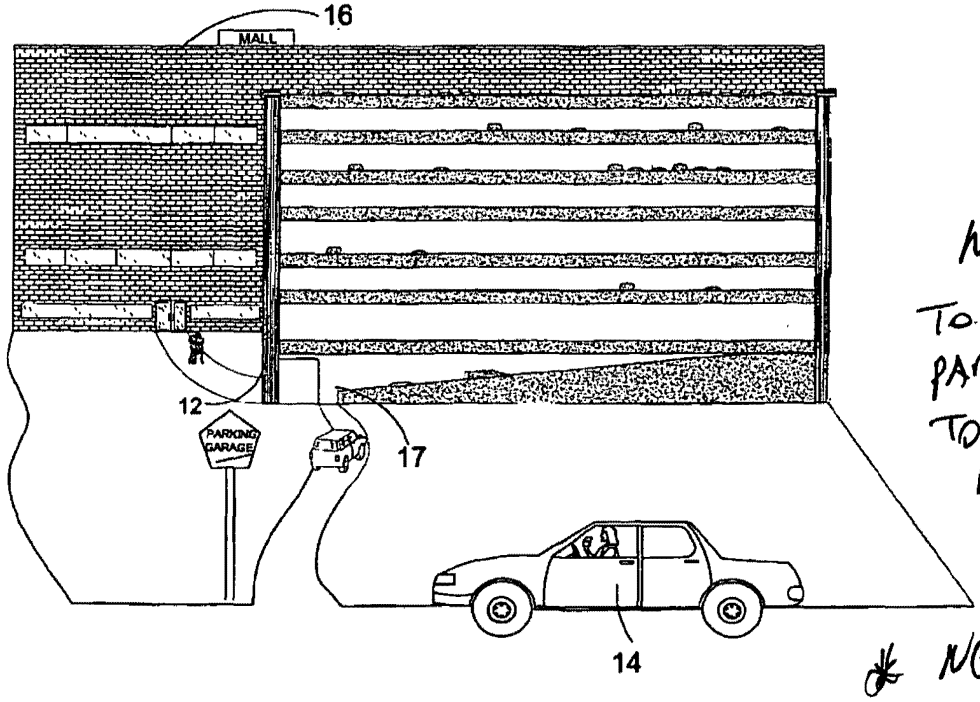
* cited by examiner

Primary Examiner—Phung T. Nguyen
(74) *Attorney, Agent, or Firm*—Bell, Boyd & Lloyd MacLane Key

(57) **ABSTRACT**

A method of matching a vehicle with a vacant parking space in a parking facility having numerous parking spaces. The method includes storing identifying characteristics of each of the parking spaces in a database. To request a parking space, a garage customer inputs data concerning his or her preferences for parking. The inventive method then determines which of the plurality of parking spaces are vacant, matches the data inputted by the user with the data identifying characteristics of each of the parking spaces determined to be vacant, and determines which of the parking spaces determined to be vacant most closely matches the data inputted by the user. The closest parking space is reserved for parking by the user.

20 Claims, 9 Drawing Sheets



METHOD TO STORE PARKING NEED TO BE MUCH IN SEARCH OF DATABASE

* NEED CENTRAL SYSTEM

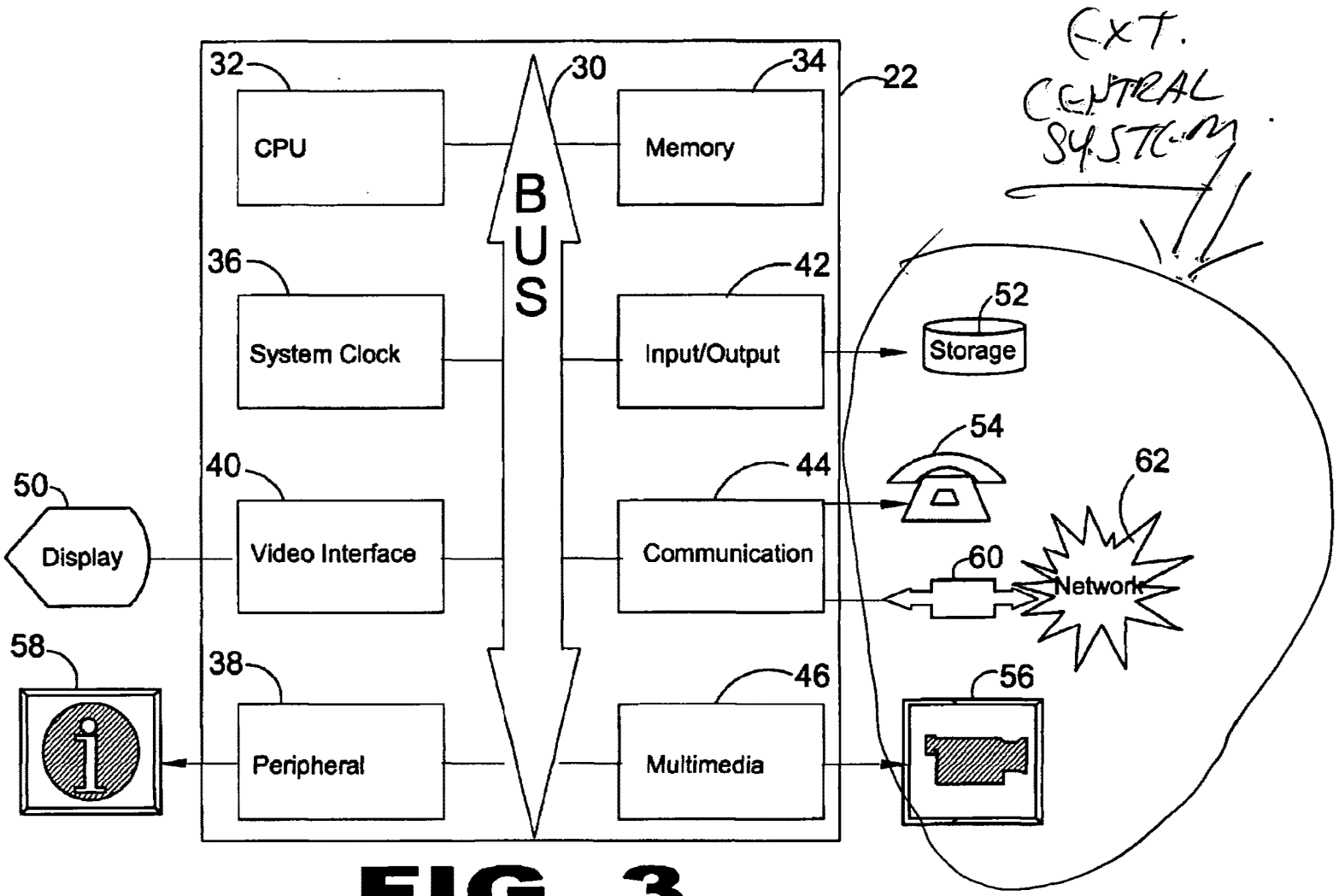

EXT. CENTRAL SYSTEM
32
CPU
30
BUS
34
Memory
22
36
System Clock
42
Input/Output
52
Storage
54
62
40
44
50
Display
Video Interface
Communication
60
Network
58
38
46
56
Peripheral
Multimedia

FIG. 3

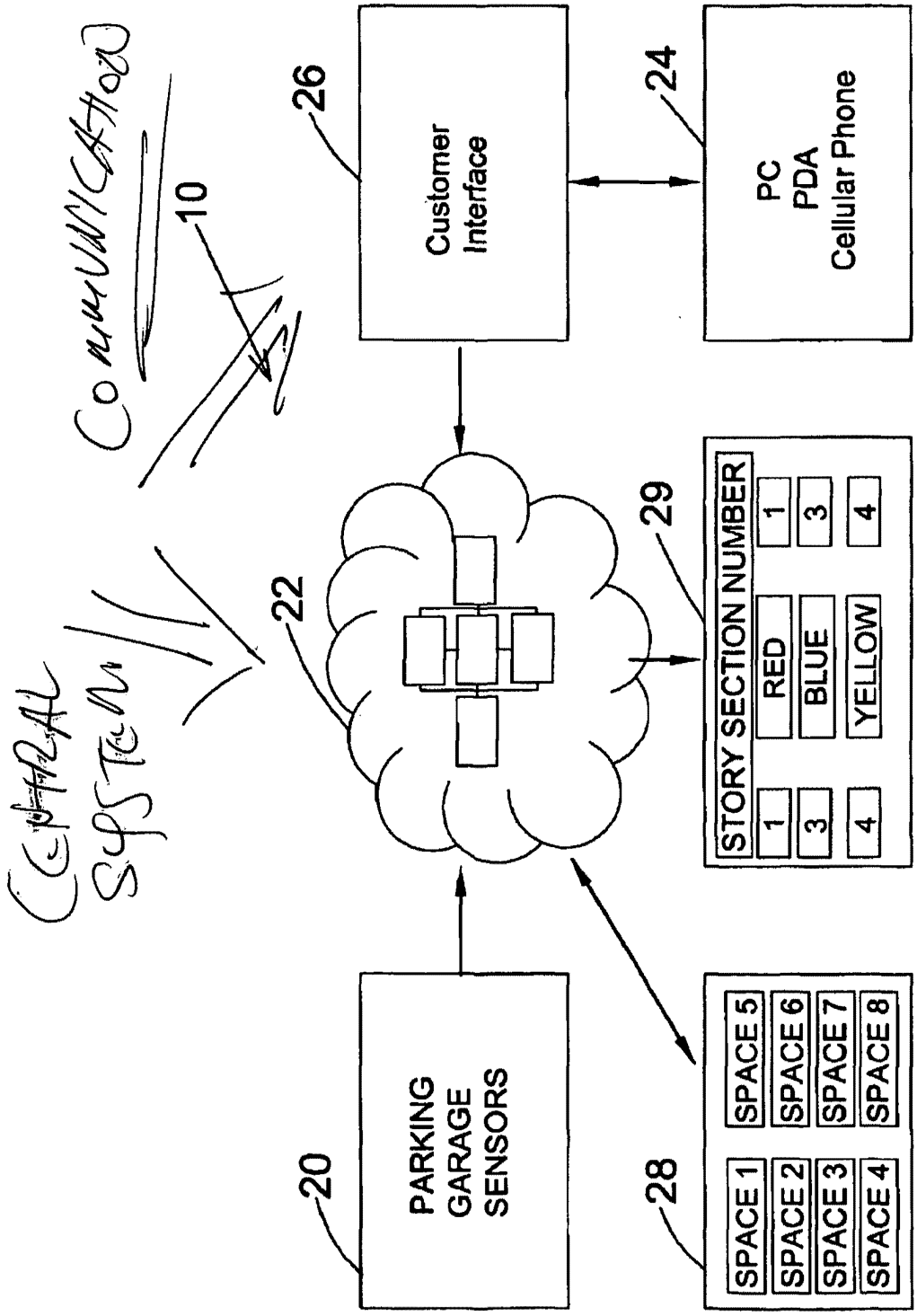

26
Customer Interface
24
PC
PDA
Cellular Phone
10
22
29
STORY SECTION NUMBER
RED
BLUE
YELLOW
1
3
4
20
PARKING GARAGE SENSORS
28
SPACE 1
SPACE 2
SPACE 3
SPACE 4
SPACE 5
SPACE 6
SPACE 7
SPACE 8

FIG. 4

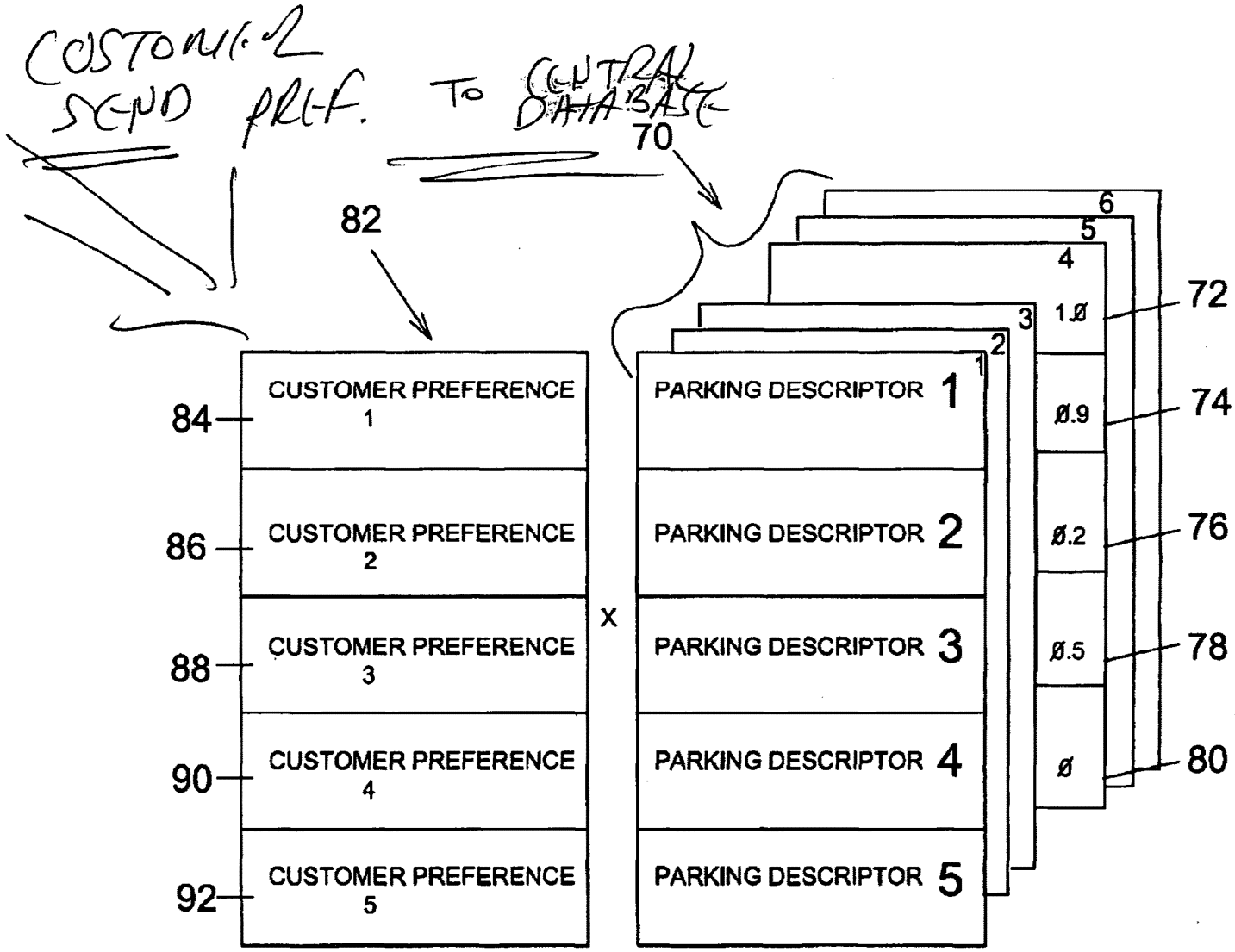

CUSTOMER SEND PREF. TO CENTRAL DATABASE
70
82
84
86
88
90
92
CUSTOMER PREFERENCE 1
CUSTOMER PREFERENCE 2
CUSTOMER PREFERENCE 3
CUSTOMER PREFERENCE 4
CUSTOMER PREFERENCE 5
X
PARKING DESCRIPTOR 1
PARKING DESCRIPTOR 2
PARKING DESCRIPTOR 3
PARKING DESCRIPTOR 4
PARKING DESCRIPTOR 5
1.0
0.9
0.2
0.5
0
72
74
76
78
80

FIG. 5

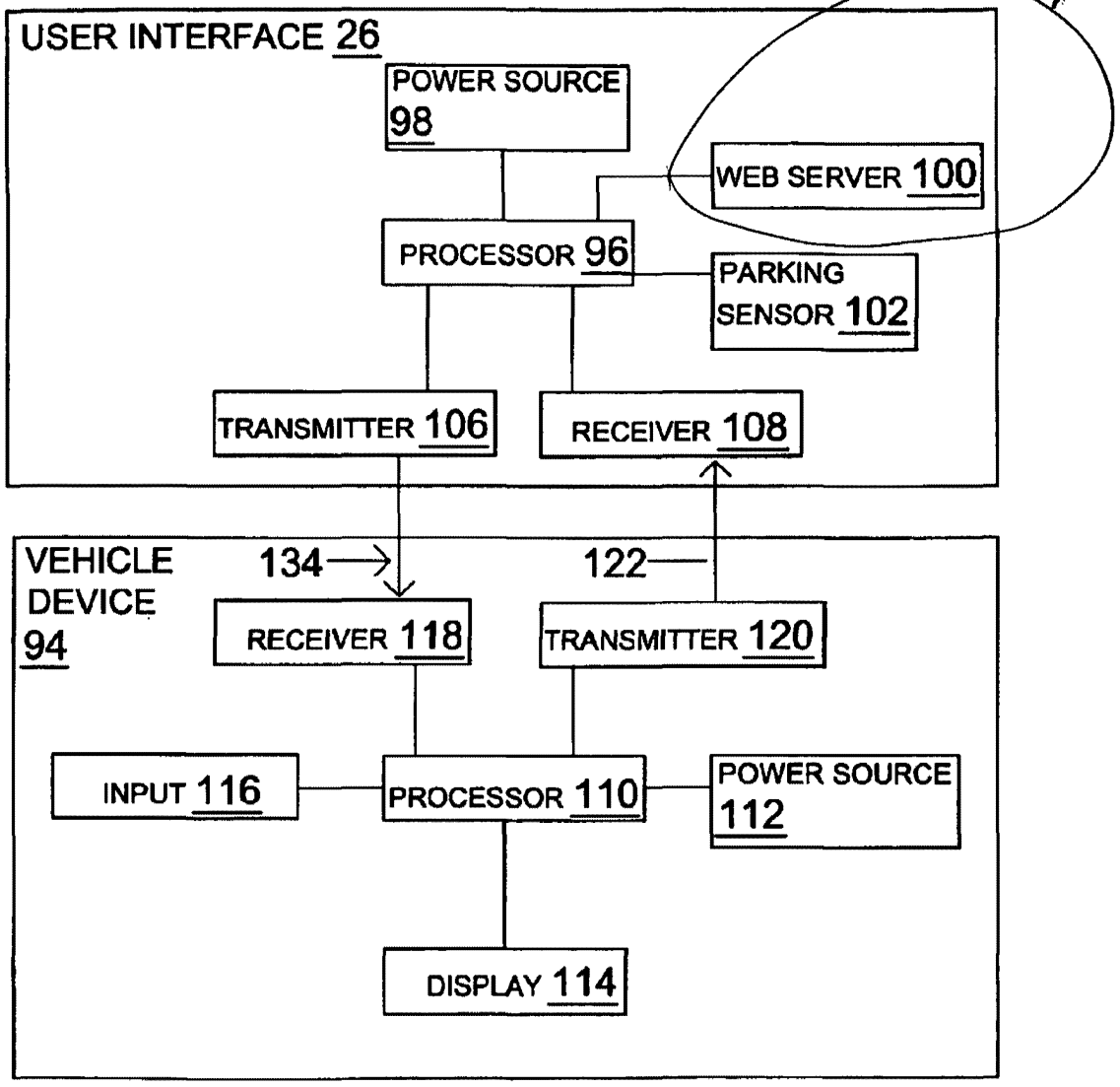

USER INTERFACE 26
POWER SOURCE 98
WEB SERVER 100
PROCESSOR 96
PARKING SENSOR 102
TRANSMITTER 106
RECEIVER 108
VEHICLE DEVICE 94
134
122
RECEIVER 118
TRANSMITTER 120
INPUT 116
PROCESSOR 110
POWER SOURCE 112
DISPLAY 114

FIG. 7

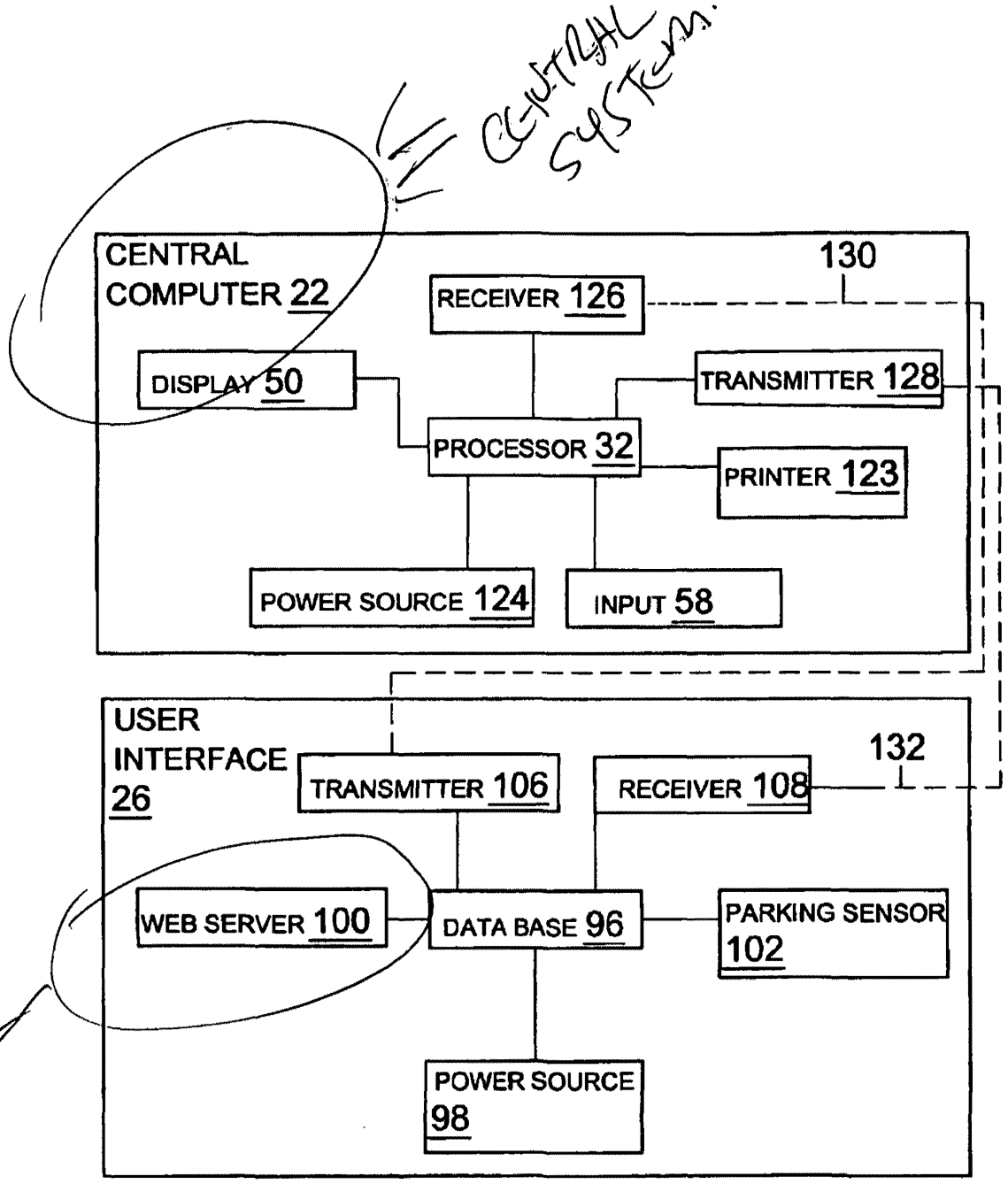

CENTRAL COMPUTER 22
130
RECEIVER 126
DISPLAY 50
TRANSMITTER 128
PROCESSOR 32
PRINTER 123
POWER SOURCE 124
INPUT 58
USER INTERFACE 26
132
TRANSMITTER 106
RECEIVER 108
WEB SERVER 100
DATA BASE 96
PARKING SENSOR 102
POWER SOURCE 98

FIG. 8

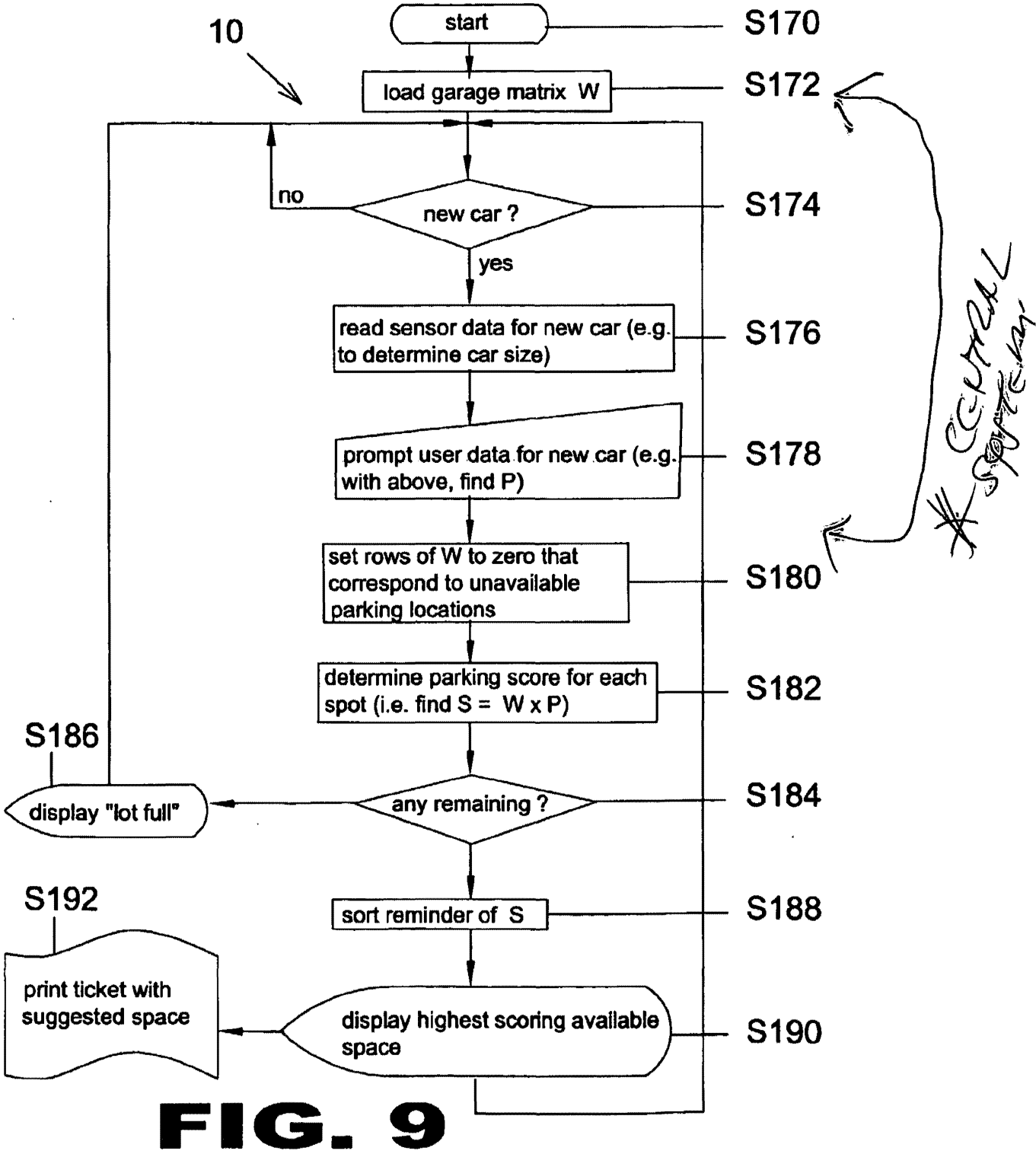

10
start
S170
load garage matrix W
S172
no
new car ?
S174
yes
read sensor data for new car (e.g. to determine car size)
S176
prompt user data for new car (e.g. with above, find P)
S178
set rows of W to zero that correspond to unavailable parking locations
S180
determine parking score for each spot (i.e. find S = W x P)
S182
S186
display "lot full"
any remaining ?
S184
S192
sort reminder of S
S188
print ticket with suggested space
display highest scoring available space
S190

FIG. 9

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

Home | Quick | Advanced | Pat Num | Help

Bottom

View Cart | Add to Cart

Images

United States Patent **6,970,101**
Squire , et al. **November 29, 2005**

Parking guidance method and system

Abstract

A method of matching a vehicle with a vacant parking space in a parking facility having numerous parking spaces. The method includes storing identifying characteristics of each of the parking spaces in a database. To request a parking space, a garage customer inputs data concerning his or her preferences for parking. The inventive method then determines which of the plurality of parking spaces are vacant, matches the data inputted by the user with the data identifying characteristics of each of the parking spaces determined to be vacant, and determines which of the parking spaces determined to be vacant most closely matches the data inputted by the user. The closest parking space is reserved for parking by the user.

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Current International Class: B60Q 001/48 ()
Field of Search: 340/932.2,942,525,928,309.16,933 701/117 235/90 705/13,418

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Primary Examiner: Nguyen; Phung T.
Attorney, Agent or Firm: Bell, Boyd & Lloyd MacLane Key

Claims

What is claimed is new and desired to be protected by Letters Patent is set forth in the appended claims:

1. A method of matching a vehicle with a vacant parking space of a plurality of parking spaces said method comprising the steps of: a) storing data identifying characteristics of each of said plurality of parking spaces in a database; b) inputting data concerning preferences for parking by a user; c) determining which of said plurality of parking spaces are vacant; d) matching said data input by said user with said data identifying characteristics of each of said plurality of parking spaces determined to be vacant; e) determining which of said parking spaces determined to be vacant most closely matches said data input by said user; f) reserving said parking space determined for said user; and g) indicating said parking space is available, if a time limit passes and said parking space is vacant, wherein said time limit is less than a maximum time amount said user is allowed to continuously park in said parking space.

2. The method of claim 1, wherein said data identifying characteristics comprises a set of descriptors, including, a total of parking spaces in said parking garage, a size of said parking space, position of said parking space relative to particular points of interest, whether said parking space is for use by handicapped, safety of said parking space.

3. The method of claim 1, wherein said step of determining which of said plurality of parking spaces are vacant is determined based upon signals received from parking sensors installed in each of said plurality of parking spaces.

4. The method of claim 3, wherein said plurality of parking sensors are motion detection sensors.

5. The method of claim 3, wherein said plurality of parking sensors are infrared frequency sensors.

* NO RF or WIFI or BLUETOOTH

6. The method of claim 3, wherein said plurality of parking sensors are switches turned on and off by a garage staff according to the availability of each parking space.

7. The method of claim 1, wherein said step of determining which of said plurality of parking spaces are vacant is determined by manually indicating availability of each parking space.

8. The method of claim 1, wherein said data concerning preferences includes data regarding predetermined number of preferences for the user.

9. The method of claim 8, wherein said step of inputting is performed through a plurality of input peripheral devices installed in the parking garage.

10. The method of claim 8, wherein said step of inputting is performed through a plurality of computing devices.

11. The method of claim 8, wherein said step of inputting is performed through a plurality of vehicle sensors positioned at an entrance to the parking garage, said plurality of vehicle sensors determining size of a vehicle.

12. The method of claim 1, further comprising the step of providing the user with a list of vacant parking spaces matched to user preferences.

13. The method of claim 12, wherein said step of providing produces a printed ticket listing vacant parking spaces.

14. A parking guidance system comprising: a plurality of parking spaces; a database, wherein said database stores identifying characteristic data of each of said plurality of parking spaces; an input device, wherein said input device enables a user to input parking preference data; a processor operably coupled to said database and to said input device, wherein said processor determines a vacant parking space pool, wherein said vacant parking space pool includes one or more parking spaces in said plurality of parking spaces that are vacant; wherein said processor also matches said parking preference data with said identifying characteristic data of each parking space in said vacant parking space pool; wherein said processor also determines a preferred parking space, wherein said preferred parking space is the parking space in said vacant parking space pool whose identifying characteristic data most closely matches said parking preference data; wherein said processor also reserves said preferred parking space; and wherein said processor also indicates said preferred parking space is available, if a time limit passes and said preferred parking space is vacant wherein said time limit is less than a maximum time amount said user is allowed to continuously park in said parking space.

15. The parking guidance system of claim 14, wherein said identifying characteristic data comprises a set of descriptors, including, a total of parking spaces in said parking garage, a size of said parking space, position of said parking space relative to particular points of interest, whether said parking space is for use by handicapped, safety of said parking space.

16. The parking guidance system of claim 14, further comprising: a parking sensor operably coupled to said processor, wherein said parking sensor senses whether a parking space of said plurality of parking spaces is vacant.

17. The parking guidance system of claim 16, wherein said parking sensor is a motion detection sensor.

18. The parking guidance system of claim 16, wherein said parking sensor is an infrared frequency sensor.

19. The parking guidance system of claim 14, further comprising: an output device operably coupled to said processor, wherein said output device provides the user with a list of vacant parking spaces.

20. The parking guidance system of claim 19, wherein said output device provides a printed ticket including said list.

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to a system for locating parking spaces and, more specifically, to a parking guidance method for finding an optimal parking space in a parking garage by using evaluation information for each parking space and categorizing the available parking spaces according to customer preference.

2. Description of the Prior Art

Presently no method exists for major parking garage companies to route their customers to parking spaces that best meet customers' needs. For example, when a customer enters a shopping mall garage more likely than not he or she will have a hard and frustrating time trying to find a desired parking space. During a holiday season a parking experience at a shopping mall can be exasperating. Many shopping mall customers have special parking needs, including sufficient space to park a larger vehicle, for example a sports utility vehicle, parking space next to a mall entrance or an entrance to a desired store within the mall, maternity or handicap parking, parking in secure or well lit areas, etc. Presently, in a crowded parking lot of a shopping mall or an airport, customers are left to drive for long periods of time searching and waiting for available parking space compatible with their needs. This haphazard manner of parking creates congestion, reduces the number of customers that are able to enter the garage and through it the mall, aggravates the customer, and causes revenue loss for both the garage and mall operators.

Numerous additional systems for monitoring, guiding, and managing vehicle parking have been provided in the prior art. For example, U.S. Pat. Nos. 3,376,547; 5,004,997; 5,091,727; 5,432,508; 5,504,314; 5,910,782; 5,940,481; 6,107,942; 6,147,624; 6,285,297 and 6,426,708 are all illustrative of such prior art. While these units may be suitable for the particular purpose to which they address, they would not be as suitable for the purposes of the present invention as heretofore described.

Apparatus for indicating the location of vacant parking places within a parking facility. A number of transducers, which are arranged throughout the parking facility and each of which monitors a particular parking place, are combined to operate with a single transceiver. This transceiver is selectively connected to each of said transducer, in turn, by switching circuits

and as each parking place is monitored a corresponding indicator is made to register that place as occupied or vacant.

An electronic parking-aid device for guiding a motorist when parking a vehicle in a parking bay. The device includes a transmitter and receiver which respectively transmits a signal towards the front of an approaching vehicle and receives the signal reflected thereby. A computing apparatus coupled to the transmitter and receiver for computing the distance from the front of the vehicle to the device and a logic apparatus coupled to the computing apparatus compares the computed distance with a predetermined threshold so as to generate an output signal if the computed distance is less than the threshold. The logic apparatus compares the computed distance to two different thresholds so as to generate corresponding output signals if the computed distance is less than the lower threshold, or lies between the two thresholds, or is greater than the larger threshold. Red, amber and green indication lamps are connected to the logic apparatus and are responsive to the respective output signals so as to advise a motorist when he is safe to proceed, when he should proceed with caution, and when he should stop, respectively. Also a parking management system wherein each parking bay is provided with a parking-aid device for monitoring whether a respective parking bay is occupied or vacant.

An automated parking facility management system which determines when a vehicle is at a facility entrance, stores the locations of vacated facility parking spots, determines the location of a desirable vacated parking spot in relation to either the facility entrance or the facility exit, prints a parking record for the customer including the computed location, removes the compound location from the memory after it has been printed to prevent assigning the same spot to two vehicles, and then adds to computed location back into the memory when the vehicle is leaving the facility to make the location available to another vehicle.

Parking for vehicles is facilitated, monitored and controlled by using sensors to determine the availability of vacant parking spaces and by indications to alert vehicle operators at a substantial distance of the availability a vacant space. A computer controlled system monitors the sensors and controls the delivery indicator signals. Data regarding parking occupancy is used to uniform drivers entering the facility and prospective users, via a telephone interface, of the availability of parking. The telephone interface further allows users to reserve parking spaces and charge the cost of the reserved space.

The invention relates to a monitoring and/or directing system for parking areas which exhibit parking spaces. In order that the risk of theft is reduced and/if appropriate, incoming vehicles can be guided specifically to empty parking spaces, the monitoring and/or directing system is designed with at least one entrance and departure station provided for issue and retrieval of parking tickets fitted with an electronic identification element, with communicators which detect the parking tickets, there being arranged, at each parking space, at least one communicator which has a detection region directed towards the associated parking space, and with data lines via which the communicators and the entrance and departure stations are connected to a central computer.

An on-board vehicle navigation system parking space finder that offers a driver a competitive edge in finding available on-street parking. Drivers not familiar with an area are able to locate available metered parking spaces with ease. Drivers may be informed, on demand, of what type of currency they need for parking meters in certain areas, so they can stop for change, if necessary. Drivers will have information about maximum time limits for different parking meters, and can use this information to select meters with longer time limits, if necessary. Metered parking information specific to a vehicles current location, as well as metered parking

information specific to a requested location, are made optionally available to drivers from within their vehicles.

A parking management communication system including a central control unit having a data base, a central interface unit and at least one user interface unit, the central interface unit being in communication with the at least one user interface unit via at least one of wired and wireless communication link.

A parking guidance and management system. The system provides graphical information regarding the relative availability of parking spaces within a parking garage or other large facility. The system relies on a video image sensing system wherein each space in the facility is monitored by a camera to determine whether or not it is occupied. A single camera may be used to determine the status of a plurality of spaces. The information is displayed at strategically located displays along the way to available spaces. The displays contain advertising messages adjacent to the information about space availability. Revenues generated by the sale of advertising can be used by the facility operator to defray the purchase and/or maintenance cost of the guidance and management system. The information obtained from the sensors at each parking space may be used to provide information to the manager of the facility regarding space utilization. Information regarding the occupancy status of each space may also be used as a check on receipts of parking fees and to identify abandoned vehicles.

Available spaces in a system may identified using detectors in each of the spaces. The detectors may communicate the availability of a space after detecting whether or not an item is currently situated at the space. This information may be assembled and displayed using mapping software to indicate available spaces. In addition, a user may be provided with information about how to traverse through the system of spaces to locate the available space. In one embodiment of the present invention, the available spaces are parking spaces and the user is a vehicle operator having an in-car personal computer system. An in-car personal computer systems may have a display showing a map of the parking facility, indicating an available space and providing directions to reach that space.

The invention provides a system for determining and communication the availability of parking spaces. The system includes an optical adapted to scan a plurality of the parking spaces and to produce scan data for the parking spaces scanned. The system also includes a processor adapted to receive the scan data from the optical detector and to determine the availability of the scanned parking spaces from the scan data. The system may include a telephone link and/or a radio transmitter for transmitting a signal to indicate the parking pace availability.

A parking advisor images scenes of a parking area and identifiers free spaces using image processing techniques. The advisor then makes recommendations as to which areas a driver should go based on the locations of free spaces. One way of outputting the recommendations is to display them on a terminal at an entry gate or to print them on a ticket, receipt, or other piece of paper. An entry terminal may be provided to allow the user to enter a preferred destination served by the parking area. For example, the destination could be a particular airline terminal or department store. The advisor may select, among the free spaces identified, those that are most convenient to the destination and provide corresponding directions.

SUMMARY OF THE PRESENT INVENTION

The present invention relates generally to a system for locating parking spaces and, more

and in which is shown by way of illustration specific embodiments in which the invention may be practiced. These embodiments will be described in sufficient detail to enable those skilled in the art to practice the invention, and it is to be understood that other embodiments may be utilized and that structural changes may be made without departing from the scope of the invention. In the accompanying drawing, like reference characters designate the same or similar parts throughout the several views.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

Various other objects, features and attendant advantages of the present invention will become more fully appreciated as the same becomes better understood when considered in conjunction with the accompanying drawings, in which like reference characters designate the same or similar parts throughout the several views.

FIG. 1 is a perspective view of a vehicle approaching a parking garage located within or next to a shopping mall;

FIG. 2 is an overhead view of a section of a parking garage using the guidance method of the present invention;

FIG. 3 is a block diagram showing the components of the computing device of the parking guidance system of the present invention;

FIG. 4 is a block diagram of the parking guidance system of the present invention for use in assisting a customer in locating an optimal parking space for his/her vehicle;

FIG. 5 is a block diagram showing the makeup of the matrix W and vector P of the parking guidance system of the present invention;

FIG. 6 is a perspective view of a vehicle driving on a road with its driver communicating his or her preferences for a parking space to the parking guidance system of the present invention;

FIG. 7 is a block diagram showing the relationship between a computing device built into a vehicle and a central computer's interface of the parking guidance system of the present invention;

FIG. 8 is a block diagram showing the communication of the customer preferences and a list of selected parking spaces between the central computing device and the consumer interface of the parking guidance system of the present invention; and

FIG. 9 is a flowchart showing the operation of the parking guidance system of the present invention.

DESCRIPTION OF THE REFERENCED NUMERALS

Turning now descriptively to the drawings, in which similar reference characters denote similar elements throughout the several views, the Figures illustrate the parking guidance system and method of the present invention. With regard to the reference numerals used, the following numbering is used throughout the various drawing Figures.

10 parking guidance system of the present invention

12 parking garage

14 vehicle

16 mall

17 parking garage entrance

18 parking spaces

20 vehicle sensor

22 central computing device

24 wireless computing devices

26 interface for entry of customer preferences

28 parking space descriptors

29 parking space confirmation ticket

30 common data bus

32 central processing unit (CPU)

34 memory

36 system clock

38 peripheral interface

40 video interface

42 input/output (I/O) interface

44 communications interface

46 multimedia interface

50 display

52 storage device

54 wireless telephone system

56 multimedia component

58 peripheral devices

the highest value row of matrix S. As described above, each parking space is described in the matrix W 70, by descriptors w.sub.ij, where (i) is the parking space number and (j) is the pre-assigned preference number or weight of the descriptor.

Tickets

As discussed above, the garage operator enters data 28 describing the descriptors of each parking space 18 into a matrix W 70. To determine available parking spaces, rows in matrix W 70 representing filled parking spaces (as determined by parking space sensors 20) are temporarily replaced with zeros. The customer preference information is accepted through peripheral devices connected to customer interface 26 preferably placed near the entrance 17 to the garage 12. Alternatively, customer preference information may be provided through the use of customer's PC's, land-line telephones, cell phone, or PDA's indicated by numeral 24 to access the customer interface 26 to the computing device 22 of the parking guidance system 10.

In one exemplary embodiment of the invention, shown in FIG. 6, the customer preference information may be provided to the interface 26 via a computing device 94 built in to the dashboard of the vehicle 14. FIGS. 7 and 8 illustrate the interaction between such computing device 94 built into the dashboard and the central computer 22 executing the parking guidance system 10. First, as illustrated in FIG. 7, the customer interface 26 may include a database processor 96 connected to a power source 98, a web server 100 for receiving requests via the Internet, parking sensors 102, vehicle sensors 104, a transmitter 106 and a receiver 108. The vehicle computing device 94 includes a processor 110 connected to a power source 112, a video display 114, an input peripheral 116, and a receiver 118 and a transmitter 120.

FIG. 8 illustrates the interaction between the central computing device 22 and the customer interface 26. The central computing device 22 includes a processor 32 connected to a power source 124, the video display 50, the input peripherals 58, a printer 123; and two components of the communications interface 44 a receiver 126 and transmitter 128.

To receive an assignment of a parking space 18 the customer must submit his or her preference information to the central computer 22. This is achieved by entering information to the processor 110 through the input peripherals 116. The processor 110 then passes the information to the transmitter 120, which communicates the information via a signal 122 to a receiver 108 of the customer interface 26 and through it into the database processor 96. The database processor 98 passes the information to its transmitter 106, which communicates the information via a signal 130 to a receiver 126 of the central computer 22 and through it into the processor 32.

After the, parking space determination is made as described above, the tickets describing the allocated parking space 18 and direction to it along with any possible promotional information, may be forwarded to the customer at the vehicle device 94 and displayed on the video display 114. This is accomplished as the processor 32 passes the ticket information to the transmitter 128, which transmits a signal 132 including the information to the receiver 102 of the customer interface 26 and into the database processor 96. The database processor 96 then passes the ticket information to the transmitter 106, which transmits a signal 134 includes the information to a receiver 118 of the vehicle device 94 and the processor 110. The processor 110 then displays the ticket to the customer on the video display 114. The forwarded ticket 29 may be retrieved by the customer from the interface 26 or sent to the customer's e-mail address or, using infrared technology such as bluetooth, to his/her cell phone or a PDA.

computer 22 and through it into the processor 32.

After the, parking space determination is made as described above, the tickets describing the allocated parking space 18 and direction to it along with any possible promotional information, may be forwarded to the customer at the vehicle device 94 and displayed on the video display 114. This is accomplished as the processor 32 passes the ticket information to the transmitter 128, which transmits a signal 132 including the information to the receiver 102 of the customer interface 26 and into the database processor 96. The database processor 96 then passes the ticket information to the transmitter 106, which transmits a signal 134 includes the information to a receiver 118 of the vehicle device 94 and the processor 110. The processor 110 then displays the ticket to the customer on the video display 114. The forwarded ticket 29 may be retrieved by the customer from the interface 26 or sent to the customer's e-mail address or, using infrared technology such as bluetooth, to his/her cell phone or a PDA.

Statistics, such as the number of requests for a particular store or handicap parking, or continuous availability of free parking spaces in a particular area of the garage, may be calculated via data saved in the storage device 52. Such information may prove useful in controlling traffic within the garage. Additionally, when a number of malls utilize the parking guidance system 10, mall crowding can be controlled by informing customers who contact the parking guidance system 10 of one mall that another nearby identical mall has more favorable parking availability.

FIG. 9 is a flowchart showing the operation of the parking guidance system of the present invention. After starting in step S170, the parking guidance system 10 loads matrix W of parking space descriptors in step S172. In step S174 the system determines if the vehicle seeking the parking space is new to the system, e.g., has not yet been assigned a parking space. Vehicles previously assigned parking spaces will not be considered. In step S176 the car size is determined by sensors installed in the garage. Alternatively, the car size is provided by the customer together with other preference information such

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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) **FY 2009** *(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)*	Docket Number (Optional) pd101
Application Number 11/396,843	Filed 04/03/2006
For	
Art Unit 3661	Examiner Beaulieu, Yonel

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

		Fee	Small Entity Fee	
☐	One month (37 CFR 1.17(a)(1))	$130	$65	$
☐	Two months (37 CFR 1.17(a)(2))	$490	$245	$
☑	Three months (37 CFR 1.17(a)(3))	$1110	$555	$ 555
☐	Four months (37 CFR 1.17(a)(4))	$1730	$865	$
☐	Five months (37 CFR 1.17(a)(5))	$2350	$1175	$

☑ Applicant claims small entity status. See 37 CFR 1.27.

02/25/2009 SDENBOB3 00000076 11396843
01 FC:2253 555.00 DP

☑ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number _____.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☑ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☐ attorney or agent of record. Registration Number _____

☐ attorney or agent under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

Signature	Date
Ehud Mendelson	954-2373227/954-2574319
Typed or printed name	Telephone Number

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☐ Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). 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 1.11 and 1.14. This collection is estimated to take 6 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, 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.**

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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.

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	11/396,843
Filing Date	04/03/2006
First Named Inventor	EHUD MENDELSON
Art Unit	3661
Examiner Name	Beaulieu,Yonel
Attorney Docket Number	pd101

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
- ☑ Fee Attached
- ☑ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☑ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) (please Identify below):

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name			
Signature	mHODELSON		
Printed name	ehud mendelson		
Date	02/23/2009	Reg. No.	061887

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature	mHODELSON		
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This collection of information is required by 37 CFR 1.5. 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 1.11 and1.14. This collection is estimated to 2 hours 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, 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.**

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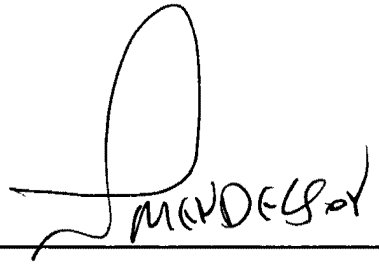
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on 02/23/2008
Date



Signature

Ehud Mendelson

Typed or printed name of person signing Certificate

061887
Registration Number, if applicable

954-2373227/ 954-2574319
Telephone Number

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

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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.
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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)).
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/396,843	04/03/2006	Ehud Mendelson	PD101	3897

61887 7590 08/25/2008

EHUD MENDELSON
GAMBA GROUP LLC
11190 HERON BAY BLVD.
SUITE 916
CORAL SPRINGS, FL 33076

EXAMINER	
BEAULIEU, YONEL	

ART UNIT	PAPER NUMBER
3661	

MAIL DATE	DELIVERY MODE
08/25/2008	PAPER

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.

02/25/2009

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/396,843	04/03/2006	Ehud Mendelson	PD101	3897

61887 7590 08/25/2008

EHUD MENDELSON
GAMBA GROUP LLC
11190 HERON BAY BLVD.
SUITE 916
CORAL SPRINGS, FL 33076

EXAMINER	
BEAULIEU, YONEL	
ART UNIT	PAPER NUMBER
3661	

MAIL DATE	DELIVERY MODE
08/25/2008	PAPER

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.

Office Action Summary	Application No.	Applicant(s)	
	11/396,843	MENDELSON, EHUD	
	Examiner	Art Unit	
	/Yonel Beaulieu/	3661	

-- 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* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ 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

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ 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).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

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).

a)☐ All b)☐ Some * c)☐ None of:

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) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4-03-06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally **limited to a single paragraph** on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Specification

The disclosure is objected to because of the following informalities: it is suggested to insert a period (- -.- -) at page 11, first paragraph; page 15, first paragraph; and page 20, line 18. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

Claims 1 – 5 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 5910782 to Schmitt et al ("Schmitt").

Regarding the above claims, Schmitt teaches a wireless parking detector, comprising: a radio frequency (RF) sensor for detecting an empty (available) parking space and outputting parking data (col. 1, lines 61 – 64; col. 2, lines 40 – 46); and a transmitter receiving (uplink/downlink 35/40) the parking data from said RF sensor and wirelessly transmitting the parking data (see fig. 1), wherein said transmitter only actively transmitting if said RF sensor detects an actually empty parking space (see fig. 2); the sensor being one of a plurality of wireless sensors defining a network (see fig. 1); the sensor being installable on any place that is designated as a parking space (in fig. 1, note parking meter 15), the parking data includes a data ID of a particular parking space (col. 2, lines 41 – 59; col. 3, lines 1 – 35).

Claim Rejections - 35 USC § 103

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

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over USP 6970101 B1 to Squire et al ("Squire") in view of "Schmitt" ('782).

Regarding the above claims, Squire teaches displaying parking availability information on at least one display device selected from the group consisting of a mobile phone, a Bluetooth™ enabled device (figs. 3 – 4, 7, 9; col. 8, lines 25 – 32 and col. 12, lines 10 – 15), receiving parking space data form a parking sensor – the availability being selected from a normal parking and handicap parking (col. 6, lines 47 - 57; col. 8, line 46 - 54; col. 10, lines 18- 30; col. 12, lines 16 – 17), displaying, using application software, empty parking space information as a floating overlay on the display device (50) without background mapping, the parking space being floated over an existing floor plan (see figs. 1 -2), the parking space location of a vehicle being registered (by computer 22; see fig. 4), additional information being available on a parking space as a waypoint (additional information regarding restaurants, stores, car size [compact], etc.), but is somewhat silent on the vehicle on-board navigation system with positional data, current position of the vehicle by triangulation calculation, parking ticket, electronic payment/debit.

However, Schmitt teaches, in the same field of endeavor of displaying parking availability, a vehicle on-board navigation system (fig. 1; title; abstract at least) with positional data, current position of the vehicle by triangulation calculation (using GPS

technology as noted in col. 2, lines 59 – 63 at least), parking ticket, electronic payment/debit (col. 61 – 63; col. 2, line 64 – col. 3, line 22 at least).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Squire's teaching by including a vehicle on-board navigation system with positional data, current position of the vehicle by triangulation calculation, parking ticket, electronic payment/debit as evidenced by Schmitt in order to enhance guiding a vehicle to available parking spaces in a timely manner.

As to providing the display device with an omni-directional circular display or forming the display as head-up display such would have been obvious to one of ordinary skill in the art at the time of the invention as involving routine skill in the art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Yonel Beaulieu/ whose telephone number is (571) 272-6955. The examiner can normally be reached on Mon., Wed. & Thur. between 0900 and 1600.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas BLACK can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/Yonel Beaulieu/
Yonel Beaulieu
Primary Examiner
Art Unit 3661

Notice of References Cited	Application/Control No. 11/396,843	Applicant(s)/Patent Under Reexamination MENDELSON, EHUD	
	Examiner /Yonel Beaulieu/	Art Unit 3661	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,910,782	06-1999	Schmitt et al.	340/995.12
*	B	US-6,970,101	11-2005	Squire et al.	340/932.2
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	
Filing Date	
First Named Inventor	ehud mendelson
Art Unit	3661
Examiner Name	Beaulieu
Attorney Docket Number	pd101

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
/YB/		US- 3,130,298	04-21-1964	Schwarz	
/YB/		US- 3,867,615	02-18-1975	Sioufi	
/YB/		US- 3,114,128	12-10-1963	Ljungman	
/YB/		US- 3,166,732	01-19-1965	Ljungman	
/YB/		US- 3,158,836	11-24-1964	McCauley	
/YB/		US- 5,293,163	03-08-1994	Kakihara	
/YB/		US- 5,432,508	07-11-1995	Jackson	
/YB/		US- 5,442,348	08-15-1995	Mushell	
/YB/		US- 5,454,461	10-03-1995	Jacobs	
/YB/		US- 5,504,482	04-02-1996	Schreder	
/YB/		US- 5,272,483	12-21-1993	Kato	
/YB/		US- 5,383,127	01-17-1995	Shibata	
/YB/		US- 5,416,712	05-16-1995	Geier	
/YB/		US- 5,606,506	02-25-1997	Kyrtsos	
/YB/		US- 5,910,782	06-08-1999	Schmitt	
/YB/		US- 5,940,481	08-17-1999	Zeitman	
		US-			
		US-			
		US-			

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	/Yonel Beaulieu/ (08/20/2008)	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. [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.

This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Search Notes	Application/Control No.	Applicant(s)/Patent under Reexamination	
	11/396,843	MENDELSON, EHUD	
	Examiner	Art Unit	
	/Yonel Beaulieu/	3661	

SEARCHED			
Class	Subclass	Date	Examiner
701	1	8/20/2008	YB
	200		
	207		
	213-215		
340	932.2		
	995.12		
	539.1		

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
WEST	8/20/2008	YB

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	11/396,843	MENDELSON, EHUD	
	Examiner	Art Unit	
	/Yonel Beaulieu/	3661	

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BIB DATA SHEET

CONFIRMATION NO. 3897

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
11/396,843	04/03/2006 RULE	701	3661	PD101

APPLICANTS
Ehud Mendelson, Coral Springs, FL;

**** CONTINUING DATA ***************************
This appln claims benefit of 60/670,097 04/12/2005

**** FOREIGN APPLICATIONS **************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
05/05/2006

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /YONEL BEAULIEU/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		FL	5	24	2

ADDRESS

EHUD MENDELSON
GAMBA GROUP LLC
11190 HERON BAY BLVD.
SUITE 916
CORAL SPRINGS, FL 33076
UNITED STATES

TITLE

System and method of detecting and navigating to empty parking spaces

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

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WEST_11396843_SearchHistory....	XML Document	8/21/08 2:04 AM	312	0%	312
WEST_11396843_SearchHistory....	Adobe Acrobat ...	8/21/08 2:04 AM	135,067	0%	135,067
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EHUD MENDELSON
GAMBA GROUP LLC
11190 HERON BAY BLVD.
SUITE 916
CORAL SPRINGS FL 33076

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JAN 10 2007

OFFICE OF PETITIONS

In re Application of :
Ehud Mendelson :
Application No. 11/396,843 : DECISION ON PETITION
Filed: April 3, 2006 : TO MAKE SPECIAL UNDER
Attorney Docket No. PD101 : 37 CFR 1.102(c)(2)
:

This is a decision on the petition under 37 CFR 1.102(c)(2)(i) & (ii), filed April 3, 2006, to make the above-identified application special based on the invention (a) materially enhancing the quality of the environment as set forth in M.P.E.P. § 708.02, Section V and (b) materially contributing to certain categories related to energy resource as set forth in M.P.E.P. § 708.02, Section VI.

The petitions are **DISMISSED**.

A grantable petition to make an application special under 37 CFR 1.102(c)(2)(i) and MPEP § 708.02, Section V: Environmental Quality, must state that special status is sought because the invention materially enhances the quality of the environment by contributing to the restoration or maintenance of basic life-sustaining natural elements. If the disclosure is not clear on its face that the claimed invention materially enhances the quality of the environment by contributing to the restoration or maintenance of one of the basic life-sustaining natural elements, the petition must be accompanied by a statement by the applicant, assignee, or an attorney/agent registered to practice before the Office explaining how the materiality standard is met. No fee is required.

The instant petition fails to show that the invention meets the materiality standard. The instant invention is directed to a system and method of navigating a vehicle to empty parking spaces. As described in the specification, there exists a number of arrangements available in the prior art that address the same issue as the instant invention. That the instant invention would cut emissions by up to 22%, as alleged in the instant petition, does not in itself satisfy the materiality standard, since the level of emissions that would be cut in comparison with the relevant prior art systems is not clearly set forth. Thus, the petition fails to explain how the invention meets the materiality standard i.e., petitioner has failed to state how the claimed invention contributes in a significant, substantial, or noticeable manner to the restoration or maintenance of one of the basic life-sustaining natural elements.

A grantable petition to make an application special under 37 CFR 1.102(c)(2)(ii) and MPEP § 708.02, Section VI: Energy, must state that special status is sought because the invention materially contributes to

(A) the discovery or development of energy resources, or (B) the more efficient utilization and conservation of energy resources. Examples of inventions in category (A) would be developments in fossil fuels (natural gas, coal, and petroleum), hydrogen fuel technologies, nuclear energy, solar energy, etc. Category (B) would include inventions relating to the reduction of energy consumption in combustion systems, industrial equipment, household appliances, etc. If the application disclosure is not clear on its face that the claimed invention materially contributes to category (A) or (B), the petition must be accompanied by a statement under 37 CFR 1.102 by the applicant, assignee, or an attorney/agent registered to practice before the Office explaining how the materiality standard is met. No fee is required.

The instant petition fails to meet the materiality standard of 37 CFR 102(c)(2)(ii). Although the invention is directed to a system and method of navigating a vehicle to empty parking spaces, the materiality standard of the rule has not been met, i.e., petitioner has failed to state how the claimed invention contributes in a significant, substantial, or noticeable manner to category (A) or (B), specifically in comparison with similar systems that are already available.

This lack of meeting the materiality standards of 37 CFR 102(c)(2) (i) and (ii) does not permit the applicant to enjoy the benefit of advanced examination.

Further correspondence with respect to this matter should be addressed as follows:

By Mail: Mail Stop PETITION
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401 Dulany Street
Alexandria, VA 22314

By FAX: (571) 273-8300

Telephone inquiries concerning this decision should be directed to Ramesh Krishnamurthy at 571-272-4914, or to the undersigned at 571-272-7099.

All other inquiries concerning either the examination or status of the application should be directed to the Technology Center.

The application is being forwarded to the Technology Center Art Unit 3661 for action in its regular turn.

for David Bucci
Petitions Examiner
Office of Petitions

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APPLICATION NUMBER	FILING OR 371(c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/396,843	04/03/2006	Ehud Mendelson	PD101

CONFIRMATION NO. 3897

61887
EHUD MENDELSON
GAMBA GROUP LLC
11190 HERON BAY BLVD.
SUITE 916
CORAL SPRINGS, FL33076

Title: System and method of detecting and navigating to empty parking spaces

Publication No. US-2006-0253226-A1
Publication Date: 11/09/2006

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 703-305-3028.

Pre-Grant Publication Division, 703-605-4283

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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
11/396,843	04/03/2006	Ehud Mendelson	PD101

CONFIRMATION NO. 3897

FORMALITIES LETTER

ehud mendelson
suite 916
11190heron bay blvd.
coral springs, FL 33076

Date Mailed: 05/05/2006

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

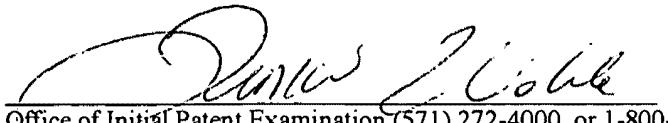
The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
  - The drawings have a line quality that is too light to be reproduced (weight of all lines and letters must be heavy enough to permit adequate reproduction) or text that is illegible (reference characters, sheet numbers, and view numbers must be plain and legible) see 37 CFR 1.84(l) and (p)(1)); See Figure(s) 4,5.
  - The drawings submitted to the Office are not electronically reproducible. Drawing sheets must be submitted on paper, which is flexible, strong, white, smooth, non-shiny, and durable (see 37 CFR 1.84(e)). See Figure(s) 1-5.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Replies should be mailed to: Mail Stop Missing Parts
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PART 2 - COPY TO BE RETURNED WITH RESPONSE

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Ehud Mendelson

11190 Heron Bay Blvd. Suite 916
Coral Springs, Florida 33076
Tel:954-2574319
Email:umendels@search4parking.com
Customer No. 061887

"Express Mail" mailing label number : EQ 919511368 US
Date of Deposit July 3,2006

I hereby certify that this paper is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner for Patents, Washington, D.C. ,22313

Docket No.: PD101
Date: July 3, 2006

Missing Parts
Commission for patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir,

Enclosed herewith are the necessary replacement drawing for application 11/396,843 file at April 3,2006. as to your confirmation No. 3897 dated:05/05/2006, attached .

Respectfully submitted,
Ehud Mendelson
Applicant Pro Se
Customer No. 061887

OIPE IAP12
JUL 03 2006
PATENT & TRADEMARK OFFICE
CANCELLED

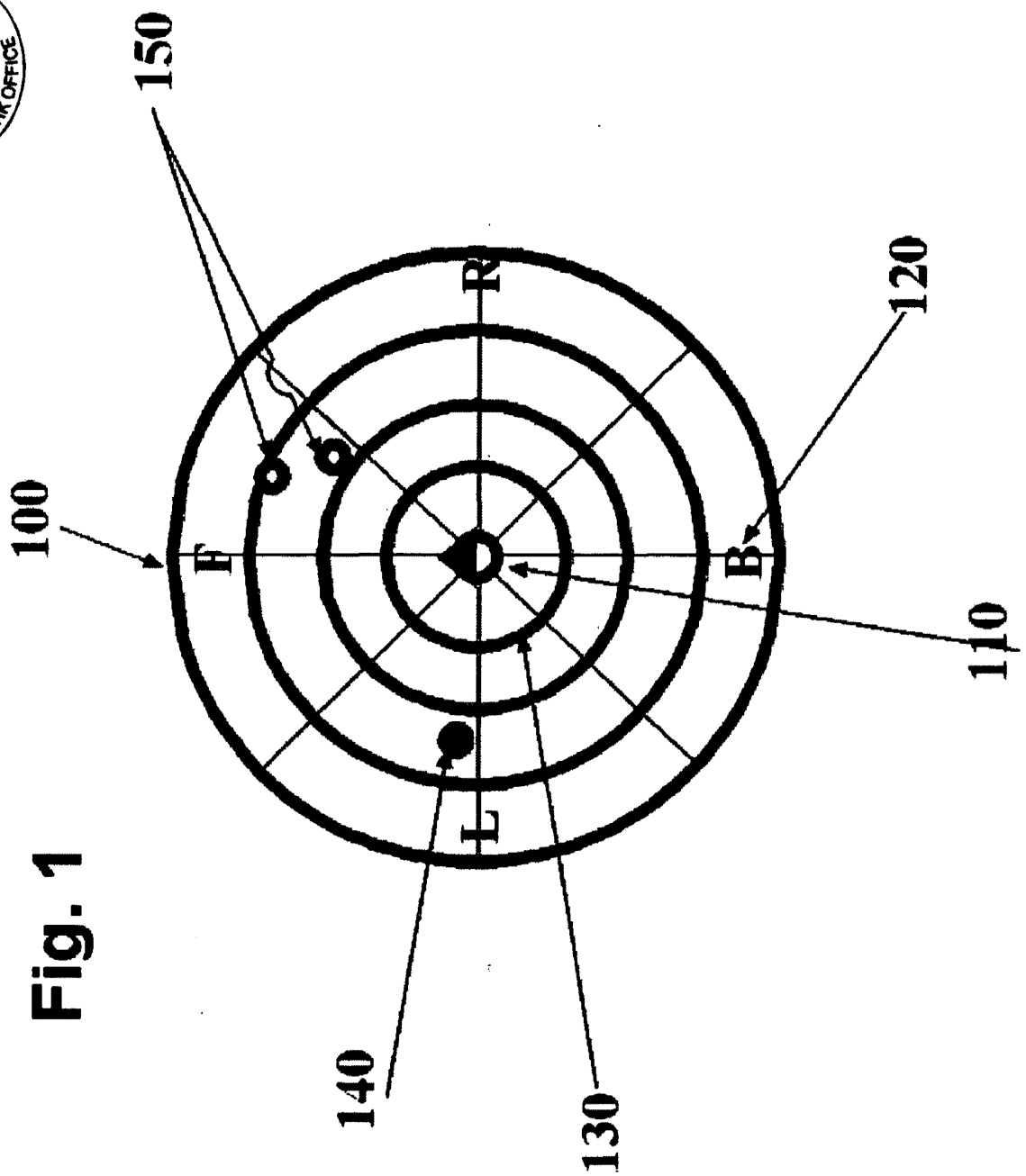
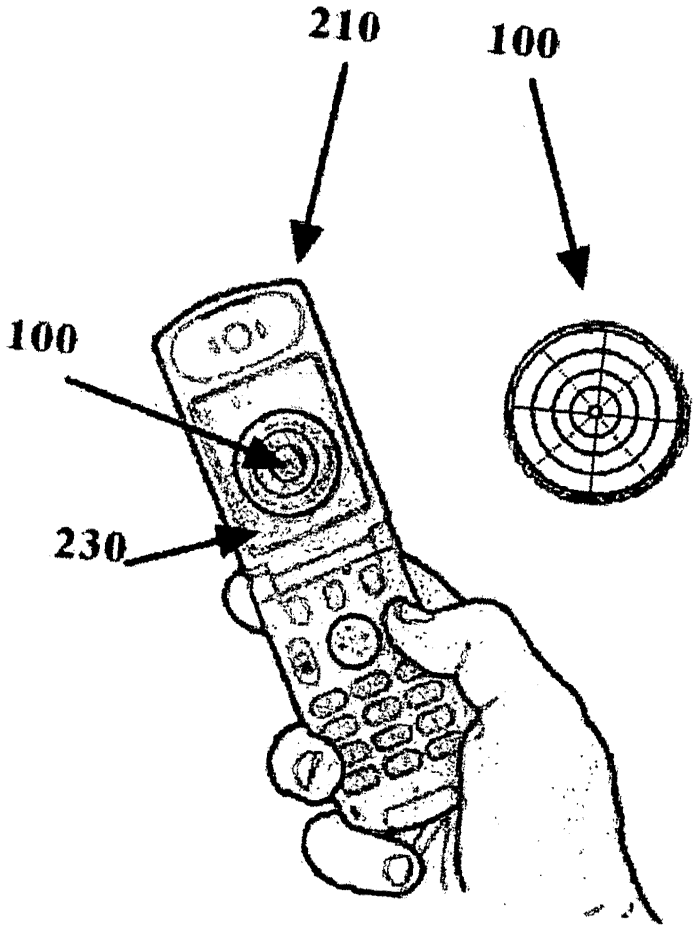


Fig. 1

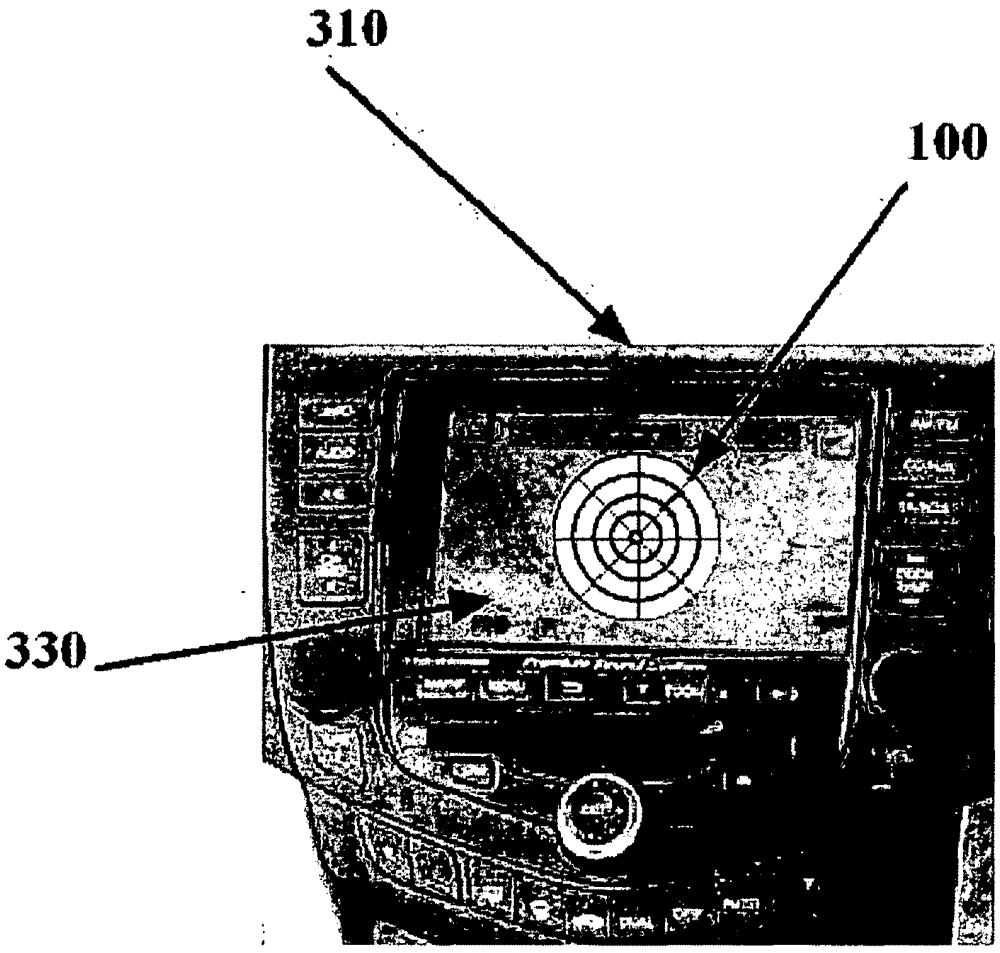
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Fig. 2



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Fig. 3



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Fig. 4

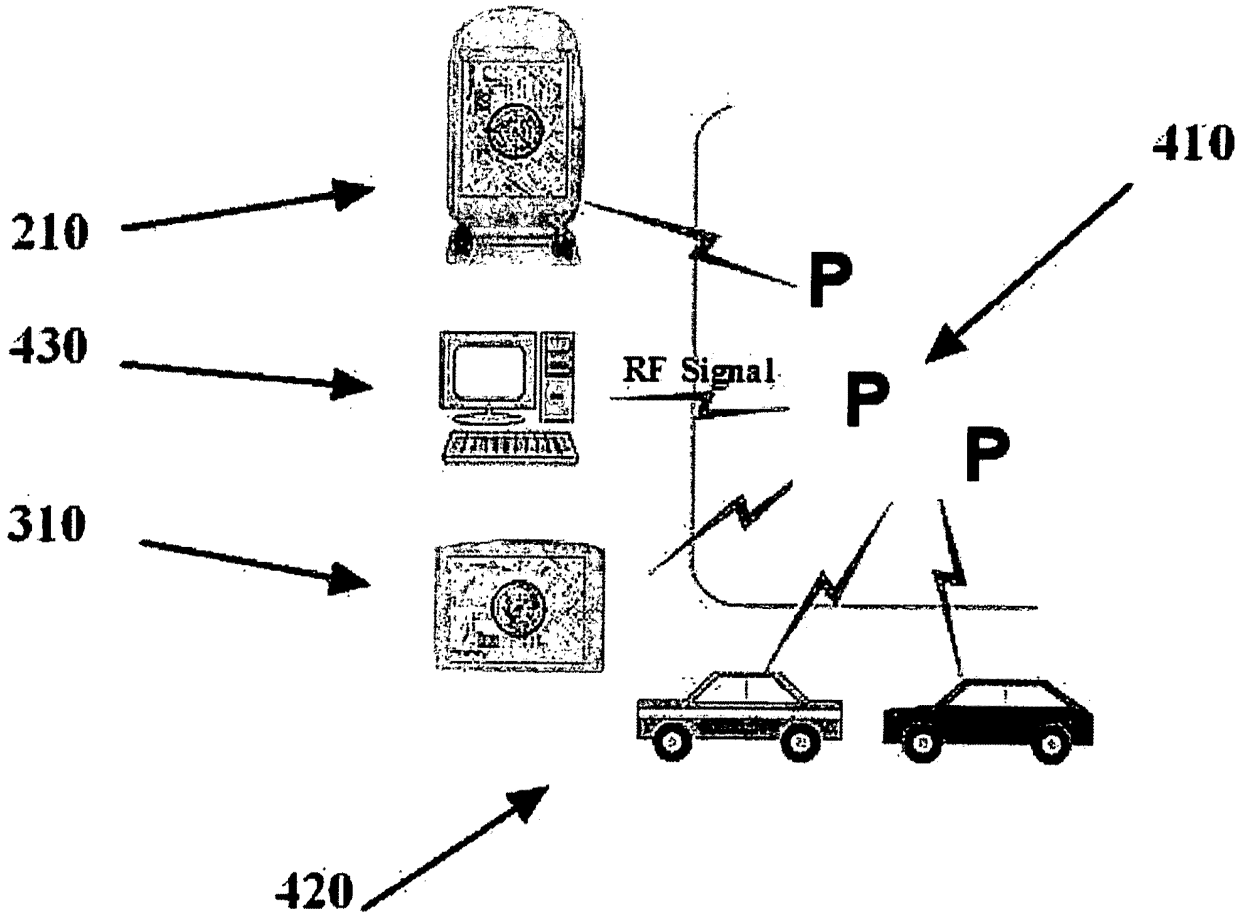
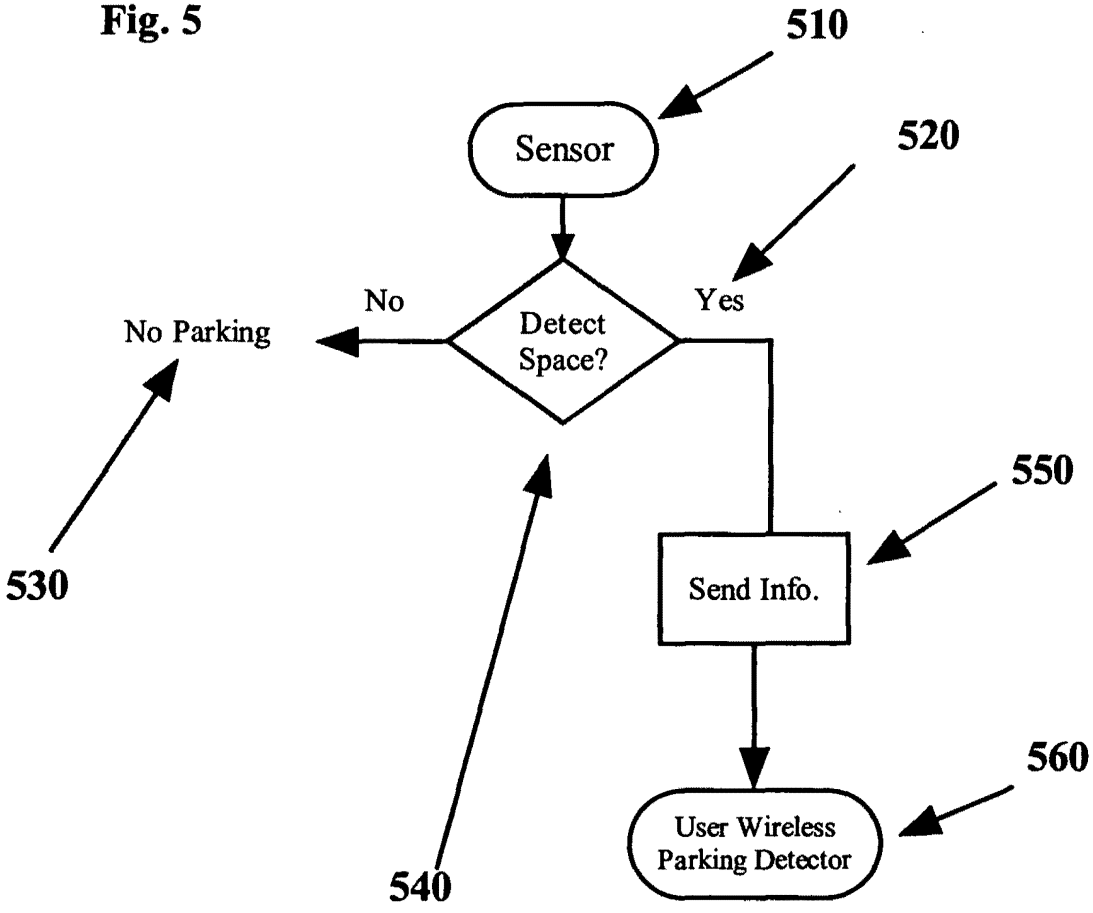


Fig. 5


510
Sensor
520
No
Yes
No Parking
Detect Space?
530
550
Send Info.
560
User Wireless Parking Detector
540

ARTIFACT SHEET

Enter artifact number below. Artifact number is application number + artifact type code (see list below) + sequential letter (A, B, C ...). The first artifact folder for an artifact type receives the letter A, the second B, etc..
Examples: 59123456PA, 59123456PB, 59123456ZA, 59123456ZB

11/396,843 2A

Indicate quantity of a single type of artifact received but not scanned. Create individual artifact folder/box and artifact number for each Artifact Type.

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Doc Code: Artifact Artifact Type Code: C

☐ Microfilm(s)
Doc Code: Artifact Artifact Type Code: F

☐ Video tape(s)
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March 8, 2004

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APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
11/396,843		3661	

Correspondence Address / Fee Address Change

The following fields have been set to Customer Number 61887 on 05/26/2006

- Correspondence Address
- Maintenance Fee Address

The address of record for Customer Number 61887 is:
EHUD MENDELSON
GAMBA GROUP LLC
11190 HERON BAY BLVD.
SUITE 916
CORAL SPRINGS,FL 33076

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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
11/396,843	04/03/2006	Ehud Mendelson	PD101

CONFIRMATION NO. 3897

FORMALITIES LETTER

ehud mendelson
suite 916
11190heron bay blvd.
coral springs, FL 33076

Date Mailed: 05/05/2006

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

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The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
  - The drawings have a line quality that is too light to be reproduced (weight of all lines and letters must be heavy enough to permit adequate reproduction) or text that is illegible (reference characters, sheet numbers, and view numbers must be plain and legible) see 37 CFR 1.84(l) and (p)(1)); See Figure(s) 4,5.
  - The drawings submitted to the Office are not electronically reproducible. Drawing sheets must be submitted on paper, which is flexible, strong, white, smooth, non-shiny, and durable (see 37 CFR 1.84(e)). See Figure(s) 1-5.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Replies should be mailed to: Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

A copy of this notice MUST be returned with the reply.

Office of Initial Patent Examination (571) 272-4000, or 1-800-PTO-9199, or 1-800-972-6382
PART 3 - OFFICE COPY

040306 21861 U.S. PTO

PTO/SB/05 (04-05)
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U.S. Patent and Trademark Office. U.S. DEPARTMENT OF COMMERCE
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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	PD101
First Inventor	ehud mendelson
Title	parking detector method
Express Mail Label No.	EQ 624110347 US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. [x] **Fee Transmittal Form** (e.g., PTO/SB/17) *(Submit an original and a duplicate for fee processing)*
2. [x] **Applicant claims small entity status.** See 37 CFR 1.27.
3. [x] **Specification** [*Total Pages* 43] Both the claims and abstract must start on a new page *(For information on the preferred arrangement, see MPEP 608.01(a))*
4. [x] **Drawing(s)** (*35 U.S.C. 113*) [*Total Sheets* 5]
5. **Oath or Declaration** [*Total Sheets* 2]
   a. [x] Newly executed (original or copy)
   b. [ ] A copy from a prior application (37 CFR 1.63(d)) *(for continuation/divisional with Box 18 completed)*
      i. [ ] DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. [ ] **Application Data Sheet.** See 37 CFR 1.76
7. [ ] **CD-ROM or CD-R** in duplicate, large table or Computer Program *(Appendix)* [ ] Landscape Table on CD
8. **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

ADDRESS TO: **Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450**

ACCOMPANYING APPLICATION PARTS

9. [ ] **Assignment Papers** (cover sheet & document(s))
   Name of Assignee _____
10. [ ] **37 CFR 3.73(b) Statement** *(when there is an assignee)* [ ] **Power of Attorney**
11. [ ] **English Translation Document** *(if applicable)*
12. [x] **Information Disclosure Statement** (PTO/SB/08 or PTO-1449) [x] Copies of citations attached
13. [ ] **Preliminary Amendment**
14. [x] **Return Receipt Postcard** (MPEP 503) *(Should be specifically itemized)*
15. [ ] **Certified Copy of Priority Document(s)** *(if foreign priority is claimed)*
16. [ ] **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent.
17. [ ] Other: _____

13255 U.S. PTO 11/396843 040306

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:*

[ ] Continuation [ ] Divisional [ ] Continuation-in-part (CIP) of prior application No.: .....

Prior application information: *Examiner* _____ *Art Unit:* _____

19. CORRESPONDENCE ADDRESS

[ ] The address associated with Customer Number: [ ] *OR* [x] Correspondence address below

Name	ehud mendelson				
Address	11190 heron bay blvd. suite 916				
City	coral springs	State	florida	Zip Code	33076
Country	USA	Telephone	954-2574319	Email	umendels@search4parking.com

Signature	EMendelson	Date	04/03/2006
Name (Print/Type)	ehud mendelson	Registration No. (Attorney/Agent)	

This collection of information is required by 37 CFR 1.53(b). 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 1.11 and 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, 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.**
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PTO/SB/17 (01-06)
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Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2006

☑ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($)

Complete if Known	
Application Number	
Filing Date	04/03/2006
First Named Inventor	ehud mendelson
Examiner Name	
Art Unit	
Attorney Docket No.	PD01

METHOD OF PAYMENT (check all that apply)

☑ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☐ Deposit Account Deposit Account Number: _____ Deposit Account Name: _____

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☐ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☐ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION (All the fees below are due upon filing or may be subject to a surcharge.)

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	500
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims		Extra Claims	Fee ($)		Fee Paid ($)
24	- 20 or HP =	4	x 25	=	100

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims		Extra Claims	Fee ($)		Fee Paid ($)
	- 3 or HP =		x	=	

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims: Fee ($) _____ Fee Paid ($) _____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 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).

Total Sheets		Extra Sheets		Number of each additional 50 or fraction thereof	Fee ($)		Fee Paid ($)
	- 100 =		/ 50 =	(round up to a whole number)	x	=	

4. OTHER FEE(S)

Fees Paid ($)

Non-English Specification, $130 fee (no small entity discount) _____

Other (e.g., late filing surcharge): _____

SUBMITTED BY

Signature	/M(Hodges)	Registration No. (Attorney/Agent)	Telephone 954-2574319
Name (Print/Type)	ehud mendelson		Date 04/03/2006

This collection of information is required by 37 CFR 1.136. 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 30 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, 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/21 (09-04)
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	
Filing Date	
First Named Inventor	EHUD MENDELSON
Art Unit	
Examiner Name	
Attorney Docket Number	PD101

Total Number of Pages in This Submission

ENCLOSURES *(Check all that apply)*

- [x] Fee Transmittal Form
  - [x] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
  - [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53
- [x] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
  - [ ] Landscape Table on CD
- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [ ] Other Enclosure(s) (please Identify below):

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	SEARCH4PARKING LLC
Signature	EMENDELSON
Printed name	EHUD MENDELSON
Date	04/03/2006
Reg. No.	

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature	EMENDELSON		
Typed or printed name	ehud mendelson	Date	04/03/2006

This collection of information is required by 37 CFR 1.5. 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 1.11 and1.14. This collection is estimated to 2 hours 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, 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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)

ehud mendelson
search4parking llc

11190 heron bay blvd. suite 916
Coral Springs, Florida 33076

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.

EHUD MENDELSON	(Depositor's name)
	(Signature)
04/03/2006	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
		EHUD MENDELSON	PD101	

TITLE OF INVENTION: SYSTEM AND METHOD OF DETECTING AND NAVIGATING TO EMPTY PARKING SPACES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
utility	x			600.00	

EXAMINER	ART UNIT	CLASS-SUBCLASS

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, 1 _____

(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. 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 enclosed:

☑ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies _____

4b. Payment of Fee(s):

☑ A check in the amount of the fee(s) is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.
NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date 04/03/2006

Typed or printed name EHUD MENDELSON Registration No. _____

This collection of information 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.

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Google Exhibit 1021, p. 276

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Certificate of Mailing under 37 CFR 1.8

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

on 04/03/2006
Date

McGUDGEON

Signature

CHUD McGUDGEON

Typed or printed name of person signing Certificate

Registration Number, if applicable

954-2574319

Telephone Number

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

This collection of information is required by 37 CFR 1.8. 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 1.11 and 1.14. This collection is estimated to take 1.8 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, 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.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Ehud Mendelson

11190 Heron Bay Blvd. Suite 916
Coral Springs, Florida 33076
Tel:954-2574319
Email:umendels@search4parking.com

"Express Mail" mailing label number : EQ624110347 US
Date of Deposit April 3,2006

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner for Patents, Washington, D.C. ,22313

EHUD MENDELSON

Docket No.: Pd101
Date: April 3, 2006

Commission for patents
P.O.Box 1450
Alexandria, VA 22313-1450

Sir,

Enclosed herewith are the necessary papers for filling the following application for letters patent:

Applicant: Ehud Mendelson

Title: SYSTEM AND METHOD OF DETECTING AND NAVIGATING TO EMPTY PARKING SPACES

5 sheets of drawings.
The payment in the amount of $600.00 covering the filling fee. Applicant is entitled to small entity status.
Information Disclosure Statement and __ Referenced.
Signed Declaration amendment.

Respectfully submitted,

Ehud Mendelson
Applicant Pro Se

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.

Ehud Mendelson

11190 Heron Bay Blvd. Suite 916
Coral Springs, Florida 33076
Tel:954-2574319
Email:umendels@search4parking.com

Commission for patents
P.O.Box 1450
Alexandria, VA 22313-1450

Amendment A

Prior to examination, please amend the above application as follows:

Cross Reference to related application
This application is entitled to the benefit of Provisional patent application Ser. Nr. US60/670,097 filed April 12,2005.
The priority of which is claimed under 35 U.S.C. &119(e).

Remarks
The above amendment is provided in additional to the insert reference in the patent application.

Very Respectfully,

Ehud Mendelson
Applicant Pro Se

Address all correspondence and telephone calls to:

Ehud Mendelson
Search4Parking llc
11190 Heron bay blvd. Suite 916
Coral Springs, Florida 33076
Tel:954-2574319
Email:umendels@search4parking.com

Ehud Mendelson

11190 Heron Bay Blvd. Suite 916
Coral Springs, Florida 33076
Tel:954-2574319
Email:umendels@search4parking.com

Docket No.: Pd101
Date: April 3, 2006
Applicant: Ehud Mendelson

Commission for patents
P.O.Box 1450
Alexandria, VA 22313-1450

Sir,

In accordance with 37 C.F.R. 1.98, the following patents and/or publications are cited herewith:

U.S. Pat. No. 3,130,298 to Schwarz,dated april 21,1964
U.S. Pat. No. 3,867,615 to Sioufi Feb 18, 1975
U.S. Pat. Nos. 3,114,128 to Ljungman Dec 10,1963
U.S. Pat. Nos. 3,166,732 to Ljungman Jan 19,1965
U.S. Pat. No. 3,158,836 to McCauley Nov 24,1964
U.S. Pat. No. 5,293,163 to Kakihara March 8, 1994
U.S. Pat. No. 5,432,508 to Jackson July 11, 1995
U.S. Pat. No. 5,442,348 to Mushell August 15, 1995
U.S. Pat. No. 5,454,461 to Jacobs October 3, 1995
U.S. Pat. No. 5,504,482 to Schreder April 2, 1996
U.S. Pat. No. 5,272,483 to Kato December 21, 1993
U.S. Pat. No. 5,383,127 to Shibata January 17, 1995
U.S. Pat. No. 5,416,712 to Geier May 16, 1995
U.S. Pat. No. 5,606,506 to Kyrtsos February 25, 1997
U.S. Pat. No. 5,910,782 to Schmitt June 8, 1999
U.S. Pat. No. 5,940,481 to Zeitman August 17, 1999

The above mentioned references were cited in an Information Disclosure Statement dated April 3,2006, in the parent application.

Respectfully submitted,

Ehud Mendelson
Applicant Pro Se

Application
For
United States Letters Patent

Title: System and method of detecting and navigating to empty parking spaces

Inventor: Ehud Mendelson
11190 Heron Bay Blvd. Suite 916
coral Springs, Fl, 33076

System and method of detecting and navigating to empty parking spaces

Related Applications:

This application claims the benefit of US Provisional application No. US60/670,097 filed April 12, 2005.

Field of the Invention:

This invention is directed generally to the field of location based navigation and, more particularly, to such systems and the method to be used in detecting and navigating to empty available parking spaces.

Google Ex. 1021, p. 283

BACKGROUND OF THE INVENTION

Introduction to location based services:

Location based services are rapidly expanding. Outdoor location technologies are mainly based on GPS technologies. GPS does not perform properly indoors, and is not adequate, recently, as a result, indoor location systems are appearing on the market.

The need for a system such as ours stems from various market segments and applications. One example, in the market for integrated positioning and navigation systems using GPS receivers as their primary positioning technology, is the "Car navigator".

However, a major limitation of GPS is that uninterrupted satellite reception is not possible in many situations. Densely populated areas and radio-frequency-signal shadowed locations, such as urban centers ("urban canyons"), generally do not allow proper operation of GPS, yet it is in these locations that the need is greatest.

There is a clear need for a cost effective system that maintains performance indoors, in urban canyons and in city centers.

Another important issue, GPS itself is susceptible to jamming and other man-made interference.

Description of GPS System.
The Global Positioning System (GPS) is a satellite-based navigation and time transfer system developed by the U.S. Department of Defense. GPS serves marine, airborne and terrestrial users, both

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military and civilian. Specifically, GPS includes the Standard Positioning Service (SPS) that provides civilian users with 100 meter accuracy as to the location or position of the user. It also serves military users with the Precise Positioning Service that provides 20-meter accuracy for the user. Both of these services are available worldwide with no requirement for any local equipment.

View of GPS limitations:

First limitation of GPS is that upon activation the GPS receiver scans for signals from the GPS satellites. The unit must locate and receive signals from at least four satellites to be able to determine its location. This process of locating the satellites, receiving the data and achieving a position fix can take several minutes. This delay can be problematic for many GPS applications.

Second limitation of GPS is that the receiver needs a clear view of the sky to successfully receive signals from the satellites, again under unfriendly RF conditions such as inside buildings, or in "urban canyons" or under shadows of high buildings, the GPS suffers from multi-path effects and therefore shows poor performance, or none at all..

Third Limitation - limited accuracy: There's a problem of limited accuracy of civilian GPS signal. While knowing your position to within 50-200 feet anywhere on the planet is a major technological feat, it's still not accurate enough, to locate and navigate to an empty parking space, , where each space measures about 10 feet, and most parking

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garages are located where the GPS is cannot work effectively.

Most of the navigation systems, such as the in-car navigation system, are based on GPS and have the aforementioned limitations.

Another significant factor adding to the limitations of the GPS based systems is the important role of map production; it is obvious that the user, driver, requires a map to be as detailed and as up-to-date as possible. However the existing maps used by the GPS based systems provide limited detail and the changes are not reflected on a timely basis.

In this modern age when urban development is exploding, the lack of details and updates of the topographic maps and satellite images is critical; additionally and importantly, indoor location maps are not available at all for the GPS navigation systems.

Application:

In general, our system is based of applying machine-learning techniques to the task of inferring aspects of the user's state from a stream of input from sensors.

We have focused on indoor navigation, or navigation in crowded urban areas, where GPS based systems, due to lack of access to satellites or the GPS limitations detailed previously, cannot achieve the required results.

We have focused on the task of interactively guiding the user to a desired indoor destination.

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Our system has a minimal need to know the user's location to carry out this task.

Examples of indoor applications:

The user may be looking for a certain store in a shopping mall, or a particular aisle in a department store.

The user may be looking for a certain conference room in a convention center, for a point of interest in an amusement park or for a point of interest in a museum.

The user may be looking for a train location in a station, or stops in a large subway or underground train station.

Or may just want to find available parking space.

Parking Detection and navigation application:

There is no easy way to find empty parking spaces in a busy city.=Drivers usually either wastes time driving around the area looking for an open space, or abandons the search, paying a large fee to park in a garage, or to use a valet parking service. It would be very advantageous to be able to provide a driver looking for a parking space with Parking Detector, capable of identifying available, empty parking spaces in the driver's proximity, and with a competitive edge over someone without such a Parking Detector.

Every working day 105 Million drivers are looking for a place to park!
It is estimated that 40% of urban traffic is due to this "Search for parking a space."

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The top 85 US cities face increasing congestion problems because of steady population growth and the lack of locations to build additional parking. Traffic congestion is estimated to cost travelers in the 85 biggest US cities a whopping 3.5 billion hours a year, more than 50 hours a year per driver in major cities, almost a week of work.
Traffic and traffic congestion are two main reasons for pollution, and vehicle emissions contribute significantly to the "green house effect".

In our society where time, convenience and comfort are precious commodities, parking is a major perk, or major headache.
Our "Parking Detection System" provides the answer to the most demanding need of any driver, "Where can I park?"

With the implementation of our system, navigating and detecting available parking spaces will become part of the information revolution.

Our system, a network of self organizing sensors will enable municipalities and other parking authorities to easily identify, exploit and manage revenue opportunities while at the same time providing better service at a lower operating cost.

With our system, drivers will save time, reduce the frustration of hunting for parking spaces and also will save money on gas usage and car maintenance costs.

By using and modifying existing technology, our system will integrate easily with other transportation and communication systems.

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Reference to prior arts:

Despite the problems encountered by vehicle operators at parking facilities, most existing parking monitoring systems focus on collecting information for management. Some prior art systems employ sensors at entrances and exits to parking facilities or sections of such facilities (See U.S. Pat. No. 3,130,298 to Schwarz). These sensors trigger a counter to determine the number of cars in the monitored area by subtracting the number of cars leaving the area from those that have entered. At least one of these monitoring systems also engages a timer to determine the aggregate usage time of the facility by summing the total time from the entry of the cars to their departure (See U.S. Pat. No. 3,867,615 to Sioufi). These systems profess to be useful in monitoring the usage of the parking facility.

Prior Art curbside parking monitoring systems have been coupled with centralized signals which indicate general areas where drivers may find a curbside parking space (See U.S. Pat. Nos. 3,114,128 and 3,166,732 to Ljungman). Upon sensing that a space adjacent a parking meter is vacant, the system signals drivers from a signpost at an intersection of the city block along which the parking space is vacant. The signal appears in a binary yes or no stating that one or more parking spaces are available in the adjacent block-long area. However, because the driver seeing a parking available signal is not advised of the number and specific location of parking spaces that are available in that block, the vehicle operator may proceed to the indicated location to find that a single available space has already been occupied or that the space will not accommodate his vehicle. In either situation, the binary availability signal

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may lead the vehicle operator on a fruitless quest.

Another monitoring system for a parking facility compares the number of cars within a designated area (determined by counting cars entering minus cars departing the area) with the number of spaces within that area. When the net number of cars equals the number of spaces, the system registers that the area is completely full and signals drivers to proceed to the next area (See U.S. Pat. No. 3,158,836 to McCauley). Unfortunately, such systems again only yield a binary yes or no signal to the drivers. Even if an area contains only one available space, even if the space is obstructed, will not accommodate the driver's car, or is otherwise undesirable, a driver still will be lead to that area.

These prior art systems are of only limited help to vehicle operators and do not resolve many concerns associated with parking an automobile.

U.S. Pat. No. 5,293,163 to Kakihara, et al., entitled, "Navigation Apparatus for Vehicles", describes a system for finding garages or other parking facilities with available parking spaces. It provides for the display of available parking information in map format. This vehicle navigational system patent does not address the problem of locating available on-street parking. Instead, it addresses the problem of locating parking lots with available spaces. Parking lots in congested city areas are not very cost effective, and they may not be in close proximity to the driver's destination. The patent does not direct drivers directly to an available metered space, a less expensive alternative, but simply to a large parking lot where they will have to search for an available space. In addition, the Kakihara map

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display only directs the driver as far as a parking facility. The driver still must navigate around the parking facility to locate an available space.

U.S. Pat. No. 5,432,508 to Jackson, entitled, "Technique for Facilitating and Monitoring Vehicle Parking", describes a scheme for finding available parking spaces in garages and other parking facilities. It provides for the display of available parking information at the entrance of a garage and makes a provision for a light source to be mounted above a parking space to indicate its availability. Remote access to the data is provided by a dial-up telecommunication interface. Because the technique described operates over a wireline medium, it does not lend itself to being easily deployed in a wide area. Also, because parking information is never provided to any device within a vehicle, drivers still need to navigate through a garage to locate available spaces.

Parking meters with sensors, parking meters with transmitters, and navigational equipment receiving and displaying external information are well known in the art. U.S. Pat. No. 5,442,348 entitled, "Computerized Parking Meter", for example, describes a parking meter utilizing an ultrasonic transducer to detect when a car is occupying a parking space. Similarly, U.S. Pat. No. 5,454,461, entitled, "Electronic Parking Meter and System", describes a parking meter utilizing a sonar transducer for parked vehicle detection and radio means for receiving billing information.

At present, there is no on-board vehicle navigational system that delivers accurate and real time parking space information directly from the vehicle or ether portable phone application upon entering a specific geographic area.

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Accurate Navigation

U.S. Pat. No. 5,504,482 to Schreder describes an automobile equipped with an inertial and satellite navigation system as well as a local area digitized street map. The main use of this patent is for route guidance in the presence of traffic jams, etc. Schreder describes how information as to the state of the traffic on a highway can be transmitted and utilized by a properly equipped vehicle to change the route the driver would take in going to his destination. Schreder does not disclose sub-meter vehicle location accuracy determination

Vehicle Location

U.S. Pat. No. 5,272,483 to Kato describes an automobile navigation system. This invention attempts to correct for the inaccuracies in the GPS system through the use of an inertial guidance, geomagnetic sensor, or vehicle crank shaft speed sensor. However, it is unclear as to whether the second position system is actually more accurate than the GPS system. This combined system, however, cannot be used for sub-meter positioning of an automobile.

U.S. Pat. No. 5,383,127 to Shibata uses map matching algorithms to correct for errors in the GPS navigational system to provide a more accurate indication of where the vehicle is or, in particular, on what road the vehicle is. This procedure does not give sub-meter accuracy. Its main purpose is for navigation and, in particular, in determining the road on which the vehicle is traveling.

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U.S. Pat. No. 5,416,712 to Geier, et al. relates generally to navigation systems and more specifically to global positioning systems that use dead reckoning apparatus to fill in as backup during periods of GPS shadowing such as occur amongst obstacles, e.g., tall buildings in large cities. This patent shows a method of optimally combining the information available from GPS even when less than 3 or 4 satellites are available with information from a low-cost, inertial gyro, having errors that range from 1-5%. This patent provides an excellent analysis of how to use a modified Kalman filter to optimally use the available information.

U.S. Pat. No. 5,606,506 to Kyrtsos provides a good background of the GPS satellite system. It discloses a method for improving the accuracy of the GPS system using an inertial guidance system. This is based on the fact that the GPS signals used by Kyrtsos do not contain a differential correction and the selective access feature is on Locating a vacant parking space is an ordeal that causes frustration for many commuters. Even if a commuter pays to enter a parking lot, valuable time is consumed searching for a parking space within the parking lot. It seems that parking lots that service hospitals, airports, mass transit stations, entertainment forums, shopping malls and the like are always the most crowded, when time is the most crucial. As urban and suburban regions become more populated, finding a vacant parking space will become increasingly difficult for commuters.

U.S. Pat. No. 5,910,782 to Schmitt et al. ('782 patent) discloses a system for finding available on-street parking using an on-board vehicle

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navigation system and parking meters equipped with sensing devices. According to the '782 patent, real time metered parking space information can be accessed from a central location or directly by a vehicle, upon entering a specific geographic area.

U.S. Pat. No. 5,940,481 to Zeitman ('481 patent) discloses a parking management control system used to report parking, monitor parking and reserve parking spaces. According to the '481 patent, a user reports parking in a particular parking facility to a central control unit using a personal non-dedicated mobile communications device. The central control unit then confirms whether parking in the particular parking facility is authorized or not. The central control unit also generates a report indicating which parking facilities are supposed to be vacant for law enforcement officials so that unauthorized parking can be ticketed. The '481 patent also discloses that a user can reserve a desired parking facility by selecting a desired parking facility from a map provided from the central control unit. If a potential user, other than the registered user, communicates a request to park in the reserved parking facility, the control unit transmits a response to the potential user indicating that the parking facility is reserved and not authorized for use.

At present, however, no prior art device utilizes the capabilities to display a real-time representation of an available parking spaces directly from the sensors without central system. And without using a GPS system directly to the "user" driver. Also most of them are for the parking garage or solutions to parking meters area when our system is for any places designate as parking space, ether in-door, out door, public or private. Our system based on sensors that detect

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the empty space where most of the other detect the car...
Other depends on a request to be send to a central system or a database for a parking where our system is a direct parking detector from the sensors.

Again, most of the existing prior arts are base ether on a GPS system or ether the existing car navigator (depend on a GPS to)
And the existing mapping that they use has the same limitation as describe before and therefore practically can't be implements and work.

We believe that interface to the internet can be a solution only for a remote planning and not a local solution where the driver is looking for a parking NOW!

We believe that our system method bridge the gap between the GPS based navigation and the existing system and allow to a complete solution.

Project in Parking:

XM Radio in conjunction with partners NU-Metrics inc. and infoGation, introduce a "parkingLink" capability concept.

The system shows the actual number of spaces available at designated parking facilities on vehicle navigation map, and uses color-keyed icons to indicate the percentage availability of the facility. The driver still must navigate around and inside the parking facility to locate an available space.

Parkingcarma from ACME Innovation, that is based on sensors that count the cars driving in and out of the parking facility and inform drivers via a cell

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phone call, or by an electronic sign, or over the internet, regarding the availability in the parking garage. The driver still must navigate around and inside the parking facility to locate an available space.

Other parking projects exist but they do not approach our innovation in ability to deliver a complete solution to the parking problem. Other projects address the issue from the perspective of a parking garage and do not consider street parking, nor are they really concerned to facilitate the location of an empty space inside their garage. They do not provide the driver with the ability to compare prices in the vicinity. Nor do other projects contemplate the concept of a parking detector with a direct communication between the sensors and the "user" driver in real-time

Indoor location technologies
Various technologies are used for wireless indoor location. These may be classified in two aspects:
The algorithm - i.e. the method of location used.
The physical layer - i.e. the wireless technology used to communicate with the mobile device.

Location methods
The methods typically used in indoor location are "borrowed" from the outdoor GPS location methods inventory. Specifically, four types of methods are used indoor:
Proximity Detection (PD), Received Signal Strength (RSSI), Time of arrival (TOA), and Angle of Arrival (AOA).

Proximity Detection (PD)
This method relies upon a dense grid of antennas, each having a well-known position. When a mobile is

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somehow detected by a single antenna, it is considered to be collocated with it. When more than one antenna detects the mobile, it is considered to be collocated with the one that receives the strongest signal.
This method is relatively simple to implement. It can be implemented over different types of physical media. In particular, IR and RFID are based on this method.

Triangulation
Triangulation takes PD a step further, in the sense that it is based on measuring the signal level measurements from each antenna (possibly by using a triangulation mechanism), with respect to each mobile device. Following that, mobile is located by using a triangulation algorithm. Like the PD method, triangulation is
relatively simple to implement.

Time of arrival (TOA)
TOA is based on triggering the mobile devices to respond, and measuring the time it takes for the response to flyback to the antenna. The elapsed time represents the distance between the two. By using distances from few antennas, a mobile's position can be triangulated. TOA considered to be the most accurate method, because multipath effects can be filtered out, Yet, it is considerably more complex to implement, as it requires a modified hardware on the mobile side, as well as special modifications on the antenna side.

Angle of Arrival (AOA)
AOA is based on finding the direction of maximal signal intensity for each antenna-device pair. By finding the intersection of few such direction vectors, a mobile's position can be estimated
AOA is considerably less accurate than TOA, due to limited angular resolution and the fact that indoor

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much of the signal is reflected. Also, AOA antennas are more complex, as they require multi-section, highly directional antennas, and multiple RF circuitry.

WLAN (IEEE 802.11b)
This midrange wireless local networking standard, operating in the 2.4GHz ISM band, has become very popular in public hotspots and enterprise locations during the last few years. With a typical gross bitrate of 11 Mbps and a range of 50-100 m, IEEE 802.11b is currently the dominant local wireless networking standard. It is therefore appealing to use an existing WLAN infrastructure for indoor location as well, by adding a location server. Such solutions do exist in the market, providing an accuracy of ~2m. One limitation of such systems is the fact that WLAN tags are relatively bulky and power hungry. Thus, such locators are mainly useful to locate WLAN enabled instruments, such as portable computers.
Note that in WLAN, antennas are actually part of access points (APs), through which devices communicate with the access network. This is also the case with Bluetooth.

Bluetooth (IEEE 802.15)
Bluetooth is a newer wireless local networking standard, that operates in the 2.4 GHz ISM band. Compared to WLAN, the gross bitrate is lower (1 Mbps), and the range is shorter (typically 10-15 m, though there are Tags with a range of over 300 feet). On the other hand, Bluetooth is a "lighter" standard, highly ubiquitous (embedded in most phones, PDAs, PC peripherals, etc.) and supports, in addition to IP, several other networking services. Notably, Bluetooth supports serial port emulation, voice, and various types of object exchange.
Bluetooth tags are small, pocketsize transceivers.

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Every Bluetooth device's tag has a unique ID. This ID can be used for locating the tag.

SUMMARY OF THE INVENTION

In accordance with the present invention, it is our Project's objectives:

Our system is not a location and tracking system as offered by most other systems; it is a navigation method based on the following unique characteristics:

> Most locations, buildings, malls, stores, museums, parks, city centers, subways, railways, etc., already have their own basic floor-plans. Our sensor net, and sensor tags in an indoor /outdoor navigation situation, replace the satellite in the GPS based system to calculate and locate the "user" track. Our innovation had 3 major parts : the sensors, the parking detector and the special method to display it on.

The sensors, An RF motion sensor network that detects where the vacancy in a parking space is available.

A very small RF sensor installed in each parking space, any place designated as parking space ether parking meter, parking garage, street parking inside or outside public or commercial .the sensor can be RFID (long range type), a long range Bluetooth a wifi or any RF type. It broadcast a unique ID by wireless that identifies the location of the parking space (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcast it to be pick up by the parking detector. The system can generate a parking ticket (e.g. for

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a parking garage) with the exact free parking space. Additional lens/screens for information can be installed at the corners of the parking lines - assisting drivers to locate available parking space. Similar lens/screens can be installed on street corners, open parking garages or on or for parking meters for drivers' guidance.

The parking detector, the parking detector (in a process of trade mark) will receive the broadcasting parking sensors in the area around the "user" with interface to his existing in-car navigation system and or his cellular telephone as an application that utilize the cellular phone Bluetooth device (no cellular communication or internet or database access needed) or any Bluetooth enable device that will run our parking detector application as a stand alone device.

The display method is our unique way to bridge the existing devices like car navigation and Bluetooth devices and existing GPS mapping with the limitation that describe before with a simple application method , In a cellular phone application or in any other device Bluetooth devices or in the existing in-car navigation , we will provide our overlay add-up display method as an add-on to the existing navigation system as a real-time floating overlay omni directional circular display to overcome the limitations of GPS based systems and the existing mapping systems.

The overlay add-up device/display can work even without mapping at all, a VOR like add-up display will show the available parking spots in the immediate area without the need for a mapping background; mapping can be offered as an additional service. No regenerating of mapping is necessary.

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Another option is to download a the floor map containing destination maps from a remote location, internet or destination guide - parking guide over the web as a new way of planning a route and navigating at the destination.
Our navigation system method will enable remote navigation based on the downloaded local floor-plan, or locally, when the location's floor plan can be downloaded at the destination. An example of this would be at the entrance of the parking garage, shopping mall, department store, amusement park, museum or the city down town area.

Our system is based on a network of sensors that can be deployed anywhere, not just in parking lots or parking garages.

The System is accurate to within 10feet, well ahead of the navigation and GPS

The system can work inside a building whereas GPS cannot.

Local detection is obtained via popular Bluetooth interface.

The system provides information about each parking space's availability, including information about the price and type of space. Example: regular, handicap etc.
The system overcomes the anxiety of "Where will I park" (or return to parking RTP)by providing the ability to locate a space in advance from your Bluetooth enabled device or your cell phone with our parking detector application.
The system can become the "Next generation parking meter".

Automatic payments can be handled via a system such as "Sun Pass" or other established account.

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The system can afford established account/card holders (e.g. Sun Pass members) the option to make a parking reservation in advance.
The system can be an additional feature for city WI-FI... or being part of the deployment.

The system can serve as security add-on by providing authorities with information about a parked car in case of an emergency or security situation. No need to be in the area where the information about the parking cars can be transmitting to the authorities by remote.

Using the system, municipalities and parking facilities can manage better, compile helpful statistics and increase inventory control of the parking spaces resulting in better service and increased availability.

The system eases navigation to a parking space, without a navigation map or GPS. Mapping background can provided as an additional feature on our system.
The system provides "Local" detection as well as "Remote" detection.
The system allows easy implementation to existing networks. And parking system
The system saves gas, time, money and eases global warming.

Our system is based on a network of sensors that can be deployed anywhere, not just in parking lots or parking garages. The network can be deployed in any location designated for parking. The location can be private or commercial, street or mall, metered or not, free space or charged.

Our parking detection method is unique. We base our system on RF sensor tags with interface to

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Bluetooth enabled devices .This feature allows detection inside a building where GPS cannot work, as well as outside, with the capability to guide the driver to within 10 feet of the destination (i.e. a parking space), significantly better than any other navigation and GPS based systems on the market.

Our Bluetooth/RF sensor is based on a long range version of the popular short distance communication. This unique feature affords the user the ability to plan ahead where to park by obtaining data directly from the parking sensors and from remote by accessing the inventory of available parking spaces at the destination from data broadcast by Parking Guide.

One problem with In-Car navigation and or GPS mapping is that they cannot guide the user to closer then 50-200 feet, and only in open places, whereas our solution can provide accurate directions to within 6 to 10 feet, and to pinpoint the right parking space.

Our system will be a challenge to the navigation providers as well as the GPS providers as they cannot provide mapping or navigation inside the parking garage or lot, and in street parking the GPS /Navigation map cannot accurately locate the parking space.

Utilizing our patent pending innovation the available parking spaces in the vicinity around the "user" car are displayed on a floating overlay using either an existing installed navigation system or a stand alone device without any mapping at all.

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Navigation using the mapping or floor-plan of a location can be offered as an additional service, although it may not be necessary or needed, as the "user" will have easy way to figure out the distance and the direction to the empty parking spaces without GPS or any mapping…!.

The option of downloading a floor-plan can be exercised either remotely or locally.

The parking sensors broadcast their signal continuously and any of our parking detectors will detect them and display the data on the "user" device in an easy to understand method.

With our innovation you have the parking information that you want, when you want it, where you want it... (and at a price you can afford...).

Once you are in the vicinity of your destination and you switch on your detector, you will automatically receive the parking information along your route (in all directions around you).
No further action is required (there is no need to send a request or to access the internet /web or log on and search a database or central system..!!!).

Our unique approach does not need an internet bandwidth nor cellular communication at all…

And as a result there is no delay or waiting for communication and access time, the communication is instantaneous, directly between the sensors and the "user" parking detector.

Parking detector,The empty parking spaces will be displayed inside a graphical real-time floating omni-directional circular display in such way that

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the "user" will intuitively determine the distance and the direction to the empty parking spaces.

Additionally, each parking space will be shown with a simple color-code~~d~~ to identify the type of the parking space, e.g. regular of handicap.

Each color-code display of an empty parking space can be accessed to obtain complete information about the parking space, e.g. price and automatic waypoint information.

Each circular line represents 50~~≙~~ feet in distance from the "user"/car.
This makes it easy for the "user" to calculate the distance to the parking space.

The ability to operate our innovation on an existing in-car navigation system, or using a cellular phone as an application - parking detector (no need for cellular connection), or a stand alone device, means the "user" can use it even if his car not equipped with a built-in navigation system.

Or the parking data can be displayed as an clear, heads-up display on the driver's windshield for the next generation parking detector.

More over, our innovation can solve the "RTP" (Return to parking) problem, where many forget where they parked their car. The system has an option to save the location on the "cellular phone - parking detector" application , which will make it easy to locate the parked car.

Our solution is designed for global use and is not limited to parking garage or parking meters spaces,

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Our innovation can be implemented anywhere, in any place designated as parking space…!

It is our intention that any new construction designated as parking space will have the sensor tags built in to the design for future use and benefit of drivers..!.

With our innovation, the next generation parking meter can be … no meter at all, with automatic recognition and automatic payments.

The ability to make "Remote" reservations will be future option.

We integrated the parking system as part of our NAV4 concepts where it will provide complete solutions for local navigation in an area where the GPS can't work.

Conclusion and Benefit

Driver benefit:

Reduced search for parking
Reduced traffic
Parking availability ensured at trip destination.
Pre-trip parking information
Future option for a pre-trip or during trip parking reservation

Parking Sector:

Parking occupancy enhanced
Additional customer service
Better management control

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Municipalities:

Reduced searching for parking by drivers
Reduced traffic
Reduced pollution
Better control of parking spaces
New source of income

BRIEF DESCRIPTION OF THE DRAWINGS

A complete understanding of the present invention may be obtained by reference to the accompanying drawings, when considered in conjunction with the subsequent, detailed description, in which:

Figure 1 is illustration of the parking detector floating overlay display method in accordance with the present invention.

Figure 2 is illustration of the parking detector on a cellular phone in accordance with the present invention.

Figure 3 is illustration of the parking detector on a car-navigation in accordance with the present invention.

Figure 4 is a illustration of the parking detection system environment in accordance with the present invention.

Figure 5 is a flow diagram of the parking detector in accordance with the present invention.

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DESCRIPTION OF THE PREFERRED EMBODIMENT

In all the figures of the drawing, sub-features and integral parts that correspond to one another bear the same reference symbol in each case:

Referring now to the figures of the drawings in details and first particularly to Fig 1-5 thereof. There is shown a illustration of the method and system to detect and navigate to empty parking spaces.

The method contain the floating overlay display 100, a real-time floating overlay omni-directional circular display to overcome the limitations of the GPS based systems and the existing mapping systems.

The "user" will have easy way to figure out the distance and the direction to the empty parking spaces without GPS or any mapping.

The empty parking spaces will be displayed inside the graphical real-time omni-directional circular display in such way that the "user" will intuitively determine the distance and the direction to the empty parking spaces.

Each parking spaces will be shown with a simple color code to identify the type of the parking space e.g. 150 for example with green color will represent a regular empty parking space where 140 in color red for example will represent a handicap empty parking space.

Each color code display of an empty parking space can be access to obtain complete information about the available parking space e.g. price and automatic waypoint information.

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Each circular line 130 represents 50' in distance from the "user"/car. This makes it easy for the "user" to calculate the distance to the available empty parking space.

Moreover to make it easy to determine the directions and the location of the empty available parking spaces 140 and 150 the display circular divide to 4 parts represent as 120 B= back to the driving direction 110 as represent the car heading, R= as the right to the "user" driving direction and L= left to the driving direction as well as F= as front forward to the "user" car heading direction. Each of the empty parking spaces 140 and 150 are result of the broadcast directly from the parking sensor in the area of 300' around the "user" car.

A very small RF sensor installed in each parking space, any place designated as parking space ether parking meter, parking garage, street parking inside or outside public or commercial .the sensor can be RFID (long range type), a long range Bluetooth a wifi or any RF type. It broadcast a unique ID by wireless that identifies the location of the parking space 140 and 150 (unique parking ID, address, and price). The sensor recognizes the vacancy and broadcast it to be pick up by the parking detector 100.

The overlay add-up device/display can work even without mapping at all, the VOR like add-up display will show the available parking spots in the immediate area without the need for a mapping background; mapping can be offered as an additional service. No regenerating of mapping is necessary.

Google Ex. 1021, p. 309

Referring to Fig 2, its show the floating overlay parking detector 100 on cellular phone 210 as a Bluetooth cell phone application, there is no need for cellular communication or any internet web communication or any central system nor any access to a database.

We utilize the cellular phone 210 only as a Bluetooth enable device and the application overlay floating circular display 100 parking detector will run over ether GPS existing mapping or over a background of the area floor plan 230 that cab be ether download before access the parking area to plan ahead or download via Bluetooth or wifi at the entrance to the parking area.

Again, the mapping 230 or floor plan background is not critical to the navigation as the "user" will have easy time to determine and locate and navigate to the empty parking spaces without the background mapping or the floor plan, no generation of mapping needed at all.

Moreover by making the cellular phone 210 a parking detector even without any communication ether cellular or internet and using the telephone as a Bluetooth device any "user" even if his car not equipped with built-in navigation will have the option to determine the area empty spaces and use his telephone as parking detector.

It must be explain that there is a deference between using the cellular phone 210 to receive information from the web or central database to our method when the cellular phone using our parking detector Bluetooth application will received directly information broadcast directly from the parking sensors .

Google Ex. 1021, p. 310

Turning now to Fig 3. It is show the floating overlay parking detector 100 on a car navigation system 310 as an interface to the existing navigation system.

the floating overlay parking detector 100 on the car navigation 310 as a Bluetooth interface, there is no need for cellular communication or any internet web communication or any central system nor any access to a database.

the overlay floating circular display 100 parking detector will run over ether GPS existing mapping or over a background of the area floor plan 330 that cab be ether download before access the parking area to plan ahead or download via Bluetooth or wifi at the entrance to the parking area.

Again, the mapping 330 or floor plan background is not critical to the navigation as the "user" will have easy time to determine and locate and navigate to the empty parking spaces without the background mapping or the floor plan, no generation of mapping needed at all.

Referring to Fig 4. it's show illustration of the detection system include the parking sensors 410 The sensors 410 , An RF motion sensor network that detects where the vacancy in a parking space is available.

A very small RF sensor installed in each parking space, any place designated as parking space ether parking meter, parking garage, street parking inside or outside public or commercial .the sensor can be RFID (long range type), a long range Bluetooth a wifi or any RF type. It broadcast a unique ID by wireless that identifies the location of the parking space (unique parking ID, address, and price). The sensor recognizes the vacancy and

Google Ex. 1021, p. 311

broadcast it to be pick up by the parking detector application on ether cellular phone 210 or car navigation 310 in-car 420 navigation system. The system can generate a parking ticket (e.g. for a parking garage) with the exact free parking space. Additional lens/screens for information can be installed at the corners of the parking lines - assisting drivers to locate available parking space. Similar lens/screens can be installed on street corners, open parking garages or on or for parking meters for drivers' guidance.

Our solution is designed for global use and is not limited to parking garage or parking meters spaces, Our innovation can be implemented anywhere, in any place designated as parking space…!

It is our intention that any new construction designated as parking space will have the sensor tags built in to the design for future use and benefit of drivers..!.

With our innovation, the next generation parking meter can be … no meter at all, with automatic recognition and automatic payments.

The ability to make "Remote" reservations will be future option.

We integrated the parking system as part of our NAV4 concepts where it will provide complete solutions for local navigation in an area where the GPS can't work.

Our Bluetooth/RF sensor 410 is based on a long range version of the popular short distance communication. This unique feature affords the user the ability to plan ahead where to park by obtaining data directly from the parking sensors and from remote by accessing the inventory of

Google Ex. 1021, p. 312

available parking spaces at the destination from data broadcast by Parking Guide 430.

Or the parking data can be displayed as an clear, heads-up display on the driver's windshield of his car 420for the next generation parking detector.

More over, our innovation can solve the "RTP" (Return to parking) problem, where many forget where they parked their car. The system has an option to save the location on the "cellular phone - parking detector" application , which will make it easy to locate the parked car.

The parking sensors 410 broadcast their signal continuously and any of our parking detectors 210 or 310 will detect them and display the data on the "user" device in an easy to understand method.

With our innovation you have the parking information that you want, when you want it, where you want it... (and at a price you can afford...).

Once you are in the vicinity of your destination and you switch on your detector, you will automatically receive the parking information along your route (in all directions around you).
No further action is required (there is no need to send a request or to access the internet /web or log on and search a database or central system..!!!).

Our unique approach does not need an internet bandwidth nor cellular communication at all…

And as a result there is no delay or waiting for communication and access time, the communication is instantaneous, directly between the sensors 410 and the "user" parking detector ether 210 or 310.

Google Ex. 1021, p. 313

Parking detector, the empty parking spaces will be displayed inside a graphical real-time floating omni-directional circular display in such way that the "user"/ car 420 will intuitively determine the distance and the direction to the empty parking spaces.

It must be noted that any Bluetooth enable device can be serve as a parking detector using our application method and it is not limited to cellular phone 210 and or in-car navigation 310.

Turning to Fig 5. show the method of broadcasint the empty parking space information to the parking detectors in the area.

The RF sensor 510 will detect 540 the empty parking space and only then 520 will broadcast 550 to the parking detectors 560.

If the area is occupied then there is no 530 broadcasting at all.

Since other modifications and changes varied to fit particular operating requirements and environments will be apparent to those skilled in the art, the invention is not considered limited to the example chosen for purposes of disclosure, and covers all changes and modifications which do not constitute departures from the true spirit and scope of this invention.

Google Ex. 1021, p. 314

Having thus described the invention, what is desired to be protected by Letters Patent is presented in the subsequently appended claims.

I claim:

1. A wireless parking detector, comprising:

a radio frequency (RF) sensor for detecting an empty parking space and outputting parking data; and

a transmitter receiving the parking data from said RF sensor and wirelessly transmitting the parking data.

2. The wireless parking detector according to claim 1, wherein said transmitter only actively transmitting if said RF sensor detects an actually empty parking space.

3. The wireless parking detector according to claim 1, wherein said RF sensor is one of a

Google Ex. 1021, p. 315

plurality of wireless sensors defining a network where each of said wireless sensors detects a designated, individual parking space.

4. The wireless detector according to claim 1, wherein said RF sensor can be installed on any place that is designated as a parking space.

5. The wireless sensor according to claim 1, wherein the parking data includes a data ID of a particular parking space.

6. The wireless sensor according to claim 5, wherein the parking data includes address data, price data, and type of parking data selected from the group consisting normal parking and handicap parking.

Google Ex. 1021, p. 316

7. A method for displaying parking availability information on at least one display device selected from the group consisting of a vehicle on-board navigation system, a mobile phone, and a Bluetooth enabled device, the method comprises the steps of:

receiving parking space data from a parking sensor, the parking space data including positional data, price data, and type of parking availability data selected from the group consisting of normal parking and handicap parking; and

displaying empty parking space information as a floating overlay on the display device.

8. The method according to claim 7, which further comprises floating the empty parking space information over an existing floor plan.

Google Ex. 1021, p. 317

9. The method according to claim 7, wherein the empty parking space information is displayed as a stand alone application without background mapping.

10. The method according to claim 7, which further comprises displaying the empty parking space information over a facility map, area map, or floor plan downloaded to the display device.

11. The method according to claim 7, wherein the empty parking space information pertains to navigating a current parking area.

12. The method according to claim 11, which further comprises determining a current position of a vehicle by a triangulation calculation based on known positions of a plurality of wireless parking sensors detecting the vehicle.

Google Ex. 1021, p. 318

13. The method according to claim 12, which further comprises navigating to the current parking area using a mapping facility.

14. The method according to claim 7, which further comprises producing a parking ticket with an exact location to a park space for a vehicle, the parking ticket being distributed by a parking garage.

15. The method according to claim 7, which further comprises paying electronically the parking sensor which replaces a parking meter.

16. The method according to claim 7, wherein the parking sensor automatically debits the display device.

17. The method according to claim 12, which further comprises performing the determining step without an aid of a global positioning satellite

Google Ex. 1021, p. 319

system.

18. The method according to claim 7, which further comprises:

registering an exact parking place location of a vehicle on the display device; and

subsequently retrieving the exact parking place location for determining where the vehicle is parked.

19. The method according to claim 18, which further comprises displaying on the display device a mapping between a current position and the exact parking place location of the vehicle.

Google Ex. 1021, p. 320

20. The method according to claim 7, which further comprises displaying additional information of an available parking space as a waypoint.

21. The method according to claim 7, which further comprises providing the display device with an omni directional circular display.

22. The method according to claim 7, which further comprises forming the display device as a head-up display device projecting onto a vehicle windshield and displaying the empty parking space information via the head-up device.

23. The method according to claim 21, which further comprises determining a distance to and a direction to an empty parking space with the omni directional circular display.

Google Ex. 1021, p. 321

24. The method according to claim 7, which further comprises providing the display device with application software for displaying pre-loaded area maps or parking facility floor plans.

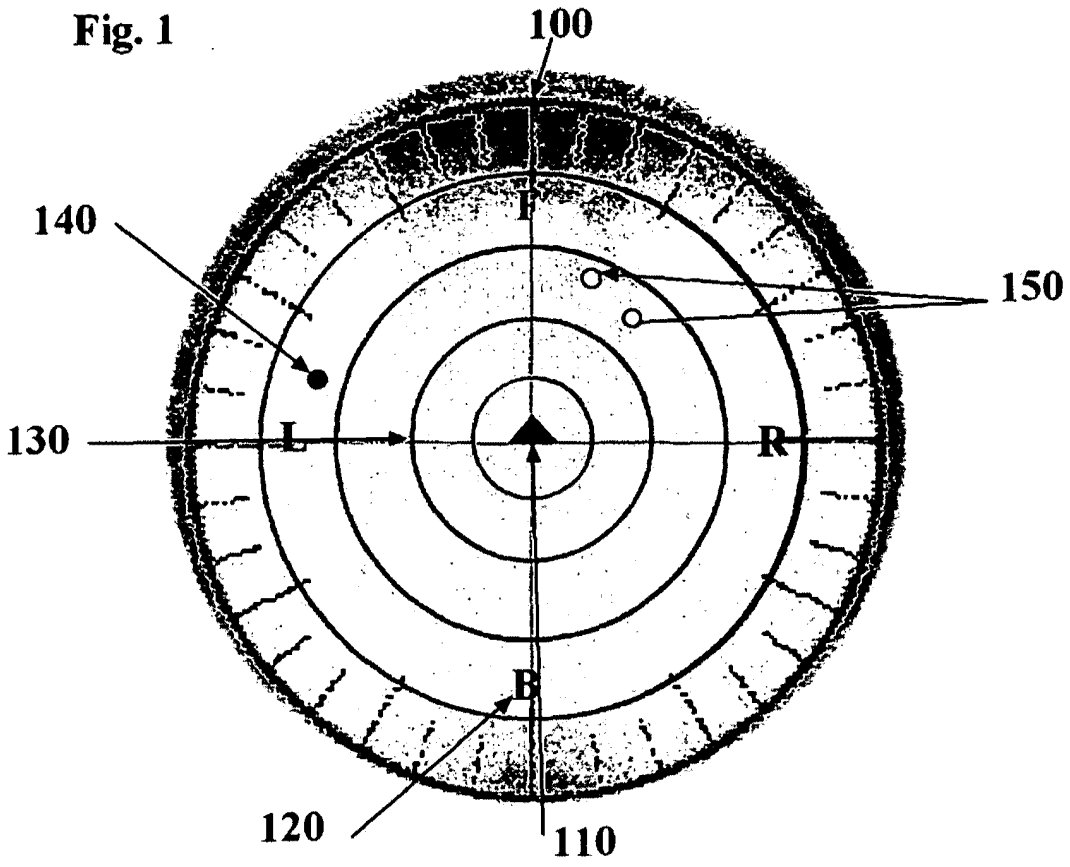
Google Ex. 1021, p. 322

ABSTRACT OF THE DISCLOSURE

The parking detection system method described herein could guide people around urban environments detect guide and navigate them to empty parking spaces, add-on to the car-based navigation systems that are popular today and or to the portable phone. We have focused on the task of detecting and navigating even in situations in which Global Positioning Systems (GPS) cannot provide this information, such as when the person is indoors or in crowded urban areas where there is no line of site to the GPS satellites.
The parking information will be received directly from RF sensors and will display as a floating overlay on the existing navigation system and or cellular phone as Bluetooth application.

Google Ex. 1021, p. 323

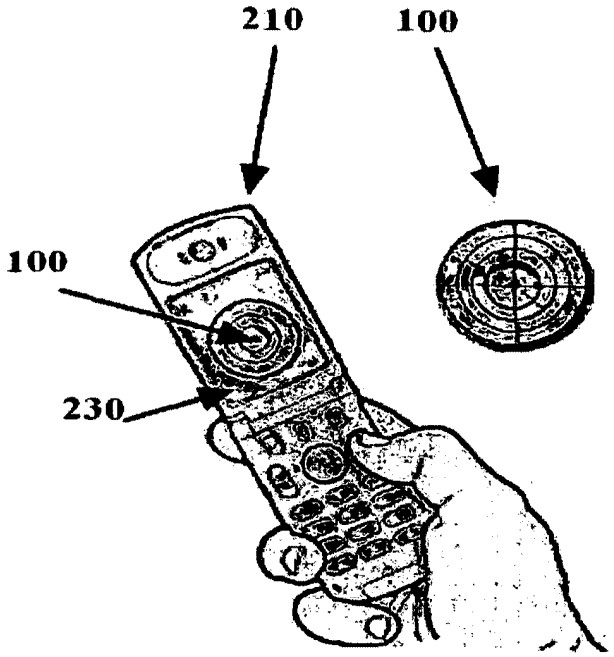
Fig. 1



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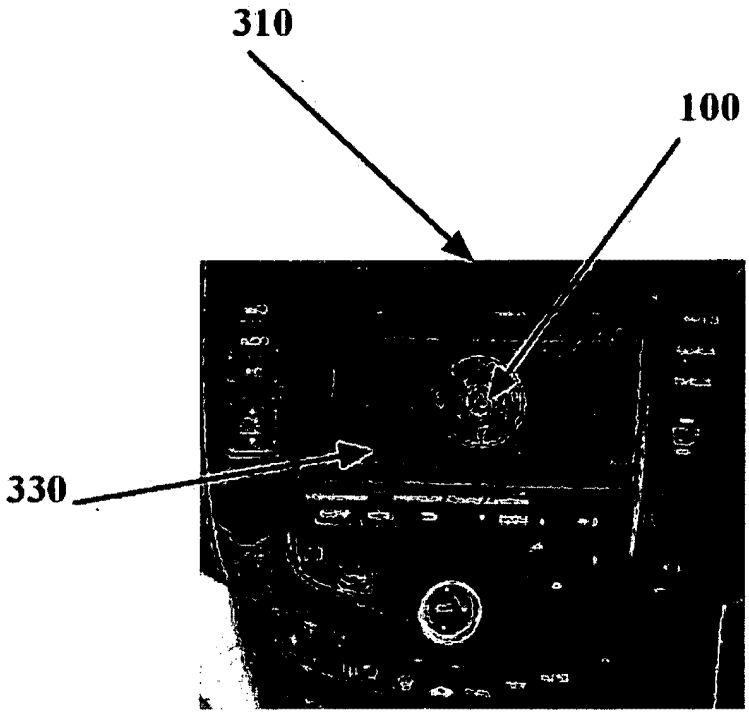
Google Ex. 1021, p. 324

Fig. 2



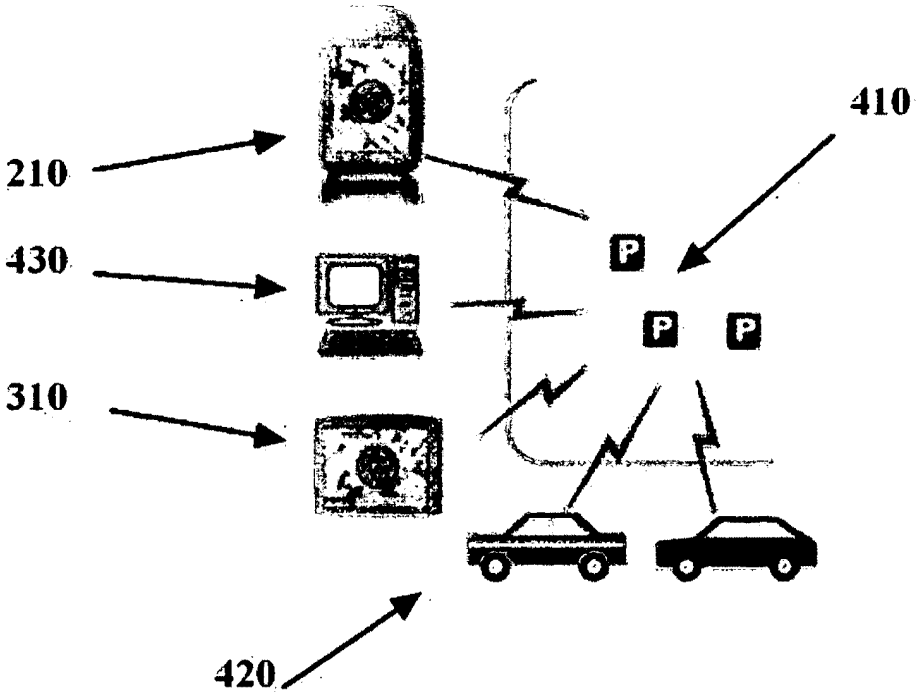
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Fig. 3



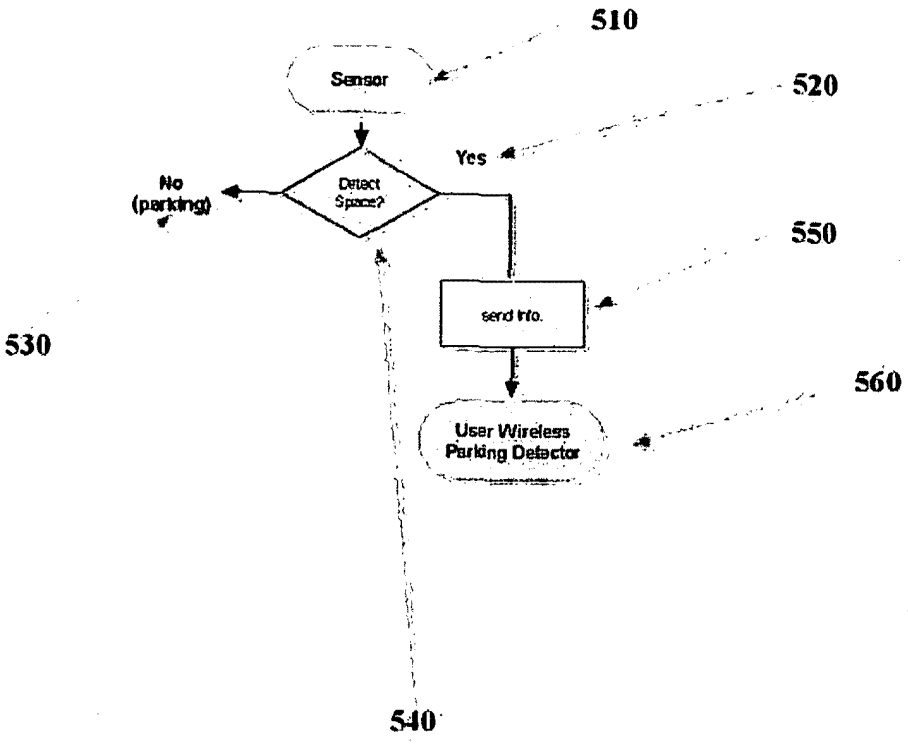
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Fig. 4



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Fig. 5



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DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☑ Declaration Submitted With Initial Filing **OR** ☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number	PD101
First Named Inventor	ehud mendelson
COMPLETE IF KNOWN	
Application Number	
Filing Date	04/03/2006
Art Unit	
Examiner Name	

I hereby declare that:

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

system and method of detecting and navigating to empty parking spaces

(Title of the Invention)

the specification of which

☑ is attached hereto

OR

☐ was filed on (MM/DD/YYYY) ☐ as United States Application Number or PCT International Application Number ☐ and was amended on (MM/DD/YYYY) ☐ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	NO
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1.11 and 1.14. This collection is estimated to take 21 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, 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.**

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DECLARATION — Utility or Design Patent Application

Direct all correspondence to:	☐ The address associated with Customer Number:		OR ☑	Correspondence address below

Name: ehud mendelson		
Address: 11190 Heron bay blvd. suite 916		
City: coral springs	State: florida	ZIP: 33076
Country: USA	Telephone: 954-2574319	Email: umendels@search4parking.com

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR:	☐ A petition has been filed for this unsigned inventor	
Given Name (first and middle [if any]): ehud		Family Name or Surname: mendelson
Inventor's Signature: *Jmendelson		Date: 04/03/2006

Residence: City: coral springs	State: florida	Country: usa	Citizenship: israel
Mailing Address: 11190 Heron Bay blvd. Suite 916			
City: coral springs	State: florida	Zip: 33076	Country: USA

☐ Additional inventors or a legal representative are being named on the _____ supplemental sheet(s) PTO/SB/02A or 02LR attached hereto.

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VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS

(37 C.F.R. 1.9(f) and 1.27(b)-INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 C.F.R. 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled:___smart parking detection system method

described in [ ] the specification filed herewith

[ ] application serial no._____, filed_____.

[ ] patent no. _____, issued_____.

I have not assigned, granted conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent invention under 37 C.F.R. 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 C.F.R. 1.9(d) or a nonprofit organization under 37 C.F.R. 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

[ ] no such person, concern, or organization

[ ] persons, concerns or organizations listed below*

*NOTE: separate verified statements are required from each person, concern or organization having rights to the invention averring to their status as small entities. (37 C.F.R. 1.27)

NAME _____Ehud Mendelson___

ADDRESS _____11190 Heron Bay Blvd. #916 Coral Springs Florida 33076

[x] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

NAME_____
_____

ADDRESS_____
_____

[ ] INDIVIDUAL [ ] SMALL BUSINESS CONCERN [ ] NONPROFIT ORGANIZATION

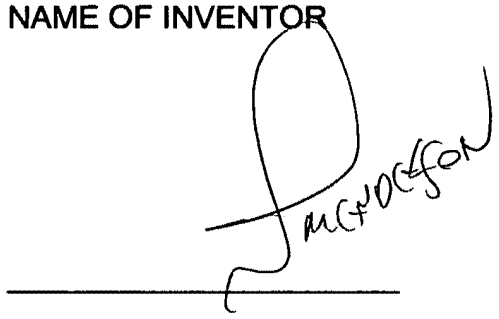
I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. I.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false

statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Ehud mendelson

NAME OF INVENTOR



Signature of Inventor

04/03/2006

Date

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

04/05/2006 EAYALEW1 00000050 11396843

01 FC:2011	150.00	OP
02 FC:2111	250.00	OP
03 FC:2311	100.00	OP
04 FC:2202	100.00	OP

PTO-1556
(5/87)

*U.S. Government Printing Office: 2002 — 466-247/69033

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875 Effective December 8, 2004

Application or Docket Number: 11,396,843

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	150.00		N/A	300.00
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	$250		N/A	$500
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	$100		N/A	$200
TOTAL CLAIMS (37 CFR 1.16(i))	24 minus 20 =	4	X$ 25 =	100	OR	X$50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	0	X100 =			X200 =	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 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))			+180=			+360=	
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	600		TOTAL	

APPLICATION AS AMENDED – PART II

		(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 ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	X$ 25 =		OR	X$50 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X100 =		OR	X200 =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					+180=		OR	+360=	
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	X$ 25 =		OR	X$50 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X100 =		OR	X200 =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					+180=		OR	+360=	
						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 number found in the appropriate box in column 1.

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Application or Docket Number

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BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	150		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	250		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	100		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	24 minus 20 =	* 4	x 25 =	100	OR	x =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	* 0	x =			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 $250 ($125 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))			N/A			N/A	
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	600		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))					N/A		OR	N/A	
						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	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
	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))					N/A		OR	N/A	
						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 number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. 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, 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.**

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PTO/SB/08A (07-05)
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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	
Filing Date	
First Named Inventor	ehud mendelson
Art Unit	
Examiner Name	
Attorney Docket Number	pd101

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
		US- 3,130,298	04-21-1964	Schwarz	
		US- 3,867,615	02-18-1975	Sioufi	
		US- 3,114,128	12-10-1963	Ljungman	
		US- 3,166,732	01-19-1965	Ljungman	
		US- 3,158,836	11-24-1964	McCauley	
		US- 5,293,163	03-08-1994	Kakihara	
		US- 5,432,508	07-11-1995	Jackson	
		US- 5,442,348	08-15-1995	Mushell	
		US- 5,454,461	10-03-1995	Jacobs	
		US- 5,504,482	04-02-1996	Schreder	
		US- 5,272,483	12-21-1993	Kato	
		US- 5,383,127	01-17-1995	Shibata	
		US- 5,416,712	05-16-1995	Geier	
		US- 5,606,506	02-25-1997	Kyrtsos	
		US- 5,910,782	06-08-1999	Schmitt	
		US- 5,940,481	08-17-1999	Zeitman	
		US-			
		US-			
		US-			

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. [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.

This collection of information is required by 37 CFR 1.97 and 1.98. 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 2 hours 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, 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.**

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Ehud Mendelson

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IN THE UNITED STATES PATENT OFFICE

Re Application:

Title: System and Method of detecting and navigating to empty parking spaces

Inventors: Ehud Mendelson

Filing Date: _04/03/2006 [filed by Express mail.)

PETITION TO MAKE SPECIAL

Commissioner of Patents and Trademarks
P.O. BOX 1450
Alexandria, VA 22313-1450

Sir:

The inventor(s) of the above named application for patent respectfully petition(s) that the application receive advancement of examination per MPEP 708.02 (V) and (VI)and 37CFR 1.102(c) by reason of (V) Environmental Quality will be enhanced and (VI)Energy savings will result.

Attachments: supporting Declaration letter

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statement were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Respectfully submitted,
Ehud Mendelson
Applicant Pro Se



Discover things we can do to save the world

Sunday, April 02, 2006

Seeking solutions to a cooler planet

Experts see technology as key to tackling global warming effects

The answer to global warming may be blowing in the wind. It's probably also driving on four wheels and could be in your way of parking or the power to know where to park ...

Scientists are cooking up solutions based on current technology that they say could dramatically turn down the heat of global warming over the next 50 years.

Innovations such as cheaper wind power, gas-electric hybrid cars and gas cards that generate funds for climate change projects already are available. Introducing them across the nation could put a dent in the growth of greenhouse gases that are warming the planet, scientists say.

The concentration of carbon dioxide -- a potent greenhouse gas -- is likely to double before the end of the century, the United Nations says. Scientists say further warming is inevitable as greenhouse gas emissions climb but that the worse effects can still be avoided.

"The question now is not 'whether to adapt?' but 'how to adapt?' " says a 2004 U.N. report on climate change.

The solutions, say experts, must come from action by politicians, business people, scientists and individuals. Over the next century, power could be derived from sources that release less carbon dioxide into the atmosphere such as nuclear fusion, hydrogen fuel cells and more efficient combustion engines.

BEST AVAILABLE COPY

Technology is a crucial component to meeting the challenge of global warming, say climate researchers and policy experts.

"You need technology," says Elliot Diringer, international strategies director with the Pew Center on Global Climate Change. "There's no question about that. The question is, 'What is the most efficient way to not only generate the technology but get it deployed.' "

Search4Parking innovation will signifinaly reduce the emission that so effect our planet,

Every working day as many as 105 Million drivers are looking for a place to park! You are probably one of them.

It is estimated that 40%of urban traffic is due to this "search for parking a space." The top 85 US cities face increasing congestion problems because of steady population growth and the lack of locations to build additional parking. And no method is in place to maximize the existing resources. Until now!

Traffic congestion is estimated to cost travelers in the 85 biggest US cities a whopping 4.5 billion hours a year, more than 40 hours a year per driver in major cities, almost a week of work.
Traffic and traffic congestion are main causes of pollution, and vehicle emissions contribute significantly to the "green house effect".

Each gallon of gas burned releases about 20 pounds of heat-trapping carbon dioxide into the atmosphere, according to the Environmental Protection Agency. That's a lot of carbon for the 2 billion cars that may be on the road by 2054, nearly four times the number today.

The cost of traffic congestion just in the United States is $78 billion, representing the 4.5 billion hours of travel time and 6.8 billion gallons of fuel wasted sitting in traffic. Billions more dollars have been spent on electronics and systems to alleviate this logjam. It is estimated that 40% of urban traffic is due to search for parking space...

Government transportation agencies are seeking out new, technology to replace used in the past. Our innovation will aid in easing our traffic woes.

Our system is the result of many years of research and combines our accurate parking space detection method, based on RF wireless sensors and data communication, to provide the most advanced solution to simplify urban parking.

From the outset, our system was been designed with the capability to utilize existing technology so it can be deployed as a stand-alone system, or in tandem with existing parking and other transportation systems. We focused on technology already in place that simply needs to be expanded -- a lot.

With the implementation of our system, parking has evolved into the information revolution. The "user" – driver, will be empowered to select and reserve a parking space, a critical function of urban living, missing until now.

Our search4parking system when implement would cut delays by 15%-20%, reduce travel time by up to 20%, cut emissions by up to 22% and reduce gas consumption by up to 10%, in US alone... according to transportation engineers,

it's any driver "dream", to "know before you go..." about parking availability and To detect and navigate to the available parking space in your area from your cell phone or your Computer or from a device in your car.

President Bush has re-entered the global warming debate by unveiling his alternative to the 1997 Kyoto agreement on global warming. His plan offers incentives to businesses to voluntarily reduce U.S. greenhouse gas emissions by an estimated 4.5 percent over 10 years and to reduce power plant emissions.

It is estimated 33 percent mandatory reduction sought by the Kyoto agreement for the United States, the world's largest producer of greenhouse gas emissions.

"We'll be working with our allies to reduce greenhouse gases. But I will not accept a plan that will harm our economy and hurt American workers."
-- U.S. President George W. Bush

We believe that implement of our system will help reduce the "greenhouse" effect The environmental quality will be enhanced and energy savings will result and at the same time will HELP the economy and the American workers...

Regards,

Ehud Mendelson
Search4Parking llc

