



(51) International Patent Classification:
G01C 21/34 (2006.01)

(21) International Application Number:
PCT/US2013/066477

(22) International Filing Date:
24 October 2013 (24.10.2013)

(25) Filing Language:
English

(26) Publication Language:
English

(30) Priority Data:
61/718,199 25 October 2012 (25.10.2012) US

(71) Applicant: INTEL CORPORATION [US/US]; 2200 Mission College Boulevard, Santa Clara, California 95054 (US).

(72) Inventors: PERI, Omer, Shmuel; 9 Klauzner Street, 4336605 Raanana (IL). SOFFER, Ronen, Aharon; 11 Zirlson Street, 6230215 Tel Aviv (IL). YISSACHAR, Amir; 1 Modai street, 54424 Givat Shmuel (IL). SAGI, Noam; Kibbutz Nahsholim, 3081500 Kibbutz Nahsholim (IL).

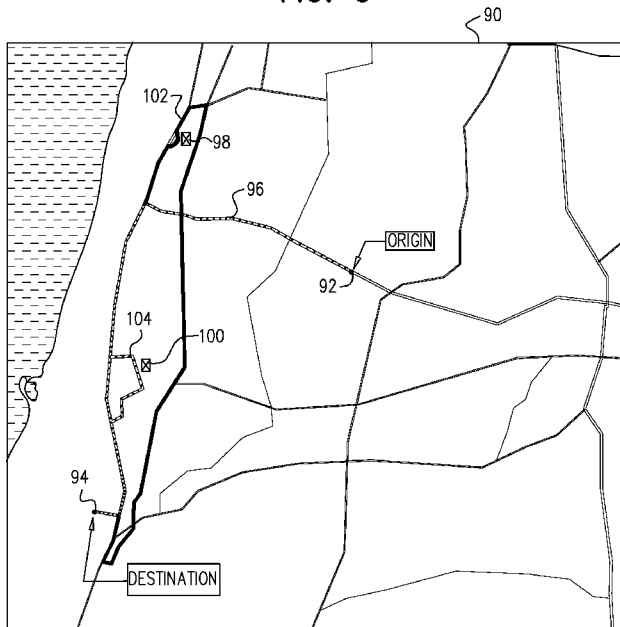
(74) Agent: DANIEL KLIGLER; P.O. Box 57651, 61576 Tel Aviv (IL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

[Continued on next page]

(54) Title: ROUTE OPTIMIZATION INCLUDING POINTS OF INTEREST

FIG. 5



(57) Abstract: A method for navigation includes receiving in a mobile computing device (24) a designation of an origin (32, 92) and a destination (34, 94) of an itinerary of a user of the device. An optimal primary route (96) is computed from the origin to the destination. Multiple points of interest (40, 98, 100) are identified in proximity to the optimal primary route. A respective first optimal sub-route (42) is computed between the origin and each of the points of interest, and a respective second optimal sub-route (44) is computed between the destination and each of the points of interest.

WO 2014/066562 A3



(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:

19 June 2014

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2013/066477

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G01C 21/34 (2014.01)

USPC - 701/438

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - G01C 21/34, 21/36; G06F 17/30; G08G 1/0969 (2014.01)

USPC - 340/995.19; 701/438, 701/532, 701/533

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

CPC - G01C 21/26, 21/32; G08G 1/096827 (2014.02)

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

PatBase, Google Patents, ProQuest

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2009/0125229 A1 (PERI et al) 14 May 2009 (14.05.2009) entire document.	1-36
Y	US 2011/0106429 A1 (POPPEN et al) 05 May 2011 (05.05.2011) entire document.	1-36
Y	US 2012/0109509 A1 (NESBITT et al) 03 May 2012 (03.05.2012) entire document.	5, 11, 17, 23, 29, 35
Y	US 2006/0025923 A1 (DOTAN et al) 02 February 2006 (02.02.2006) entire document.	8, 9, 20, 21, 32, 33
Y	US 2012/0096358 A1 (BARNES, JR.) 19 April 2012 (19.04.2012) entire document.	12, 24, 36
A	US 2005/0251324 A1 (WIENER et al) 10 November 2005 (10.11.2005) entire document.	1-36
A	US 2005/0256639 A1 (ALEKSIC et al) 17 November 2005 (17.11.2005) entire document.	1-36
A	US 2010/0292914 A1 (VEPSALAINEN et al) 18 November 2010 (18.11.2010) entire document.	1-36
A	US 2011/0106436 A1 (BILL et al) 05 May 2011 (05.05.2011) entire document.	1-36

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 07 April 2014	Date of mailing of the international search report 22 APR 2014
--	--

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774
---	---