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English

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English

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(54) Title: NAVIGATION REDIRECT USING CMAS EMERGENCY ALERTS

(57) Abstract: A navigation system integrated with knowledge of active emergency alerting system alert data and up to date Doppler weather radar data, to provide a visual representation of an alert area and/or current weather patterns on a map, and to automatically navigate a subscriber device away from an affected area, e.g., an alert area, an area under severe weather. The inventive navigation system displays NEXRAD Doppler weather radar data on a map by integrating a NEXRAD feed into the map and allowing a user to enable/disable the NEXRAD feed as a map overlay. The inventive navigation system also automatically routes or reroutes a subscriber device to avoid areas under severe weather. The navigation system is also integrated with a conventional CMSP gateway in an emergency alerting system to provide: a visual representation of an alert area on a map and to automatically route/reroute a subscriber device around an alert area.
Date of publication of the international search report:
1 May 2014
INTERNATIONAL SEARCH REPORT

International application No. PCT/US 13/52732

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G01C 21/26 (2014.01)
USPC - 340/686.1

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) Classification(s): G06F 3/048; G01C 21/00, 26, 28 (2014.01)
USPC Classification(s): 340/686.1; 701/450, 701/423

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Keywords: weather, navigation, display, visual, alert, warning, emergency, GPS, cellular, map

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 20110248863 A1 (JOHNSON, J. et al.), 13 October 2011; figure 23, paragraphs [0031], [0033], [0106], [0214], [0217], [0221], [0225], [0226].</td>
<td>1, 3</td>
</tr>
<tr>
<td>Y</td>
<td>US 20120143499 A1 (PETERSEN, S.), 07 June 2012; claim 2, paragraph [0030].</td>
<td>2</td>
</tr>
<tr>
<td>A</td>
<td>WO 2010/006246 A1 (DALY, B et al.) 14 January 2010; the entire document.</td>
<td>1-4</td>
</tr>
</tbody>
</table>

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

*S* Special categories of cited documents:
*"A"* document defining the general state of the art which is not considered to be of particular relevance
*"E"* earlier application or patent but published on or after the international filing date
*"L"* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
*"O"* document referring to an oral disclosure, use, exhibition or other means
*"P"* document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

Date of the actual completion of the international search
16 January 2014 (16.01.2014)

Date of mailing of the international search report
27 MAR 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: Shane Thomas
PCT Helpdesk: 571-272-4300
PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)
**INTERNATIONAL SEARCH REPORT**

**Box No. 11** Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.: because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. 11** Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

- Group 1: Claims 1-4; Group II: Claims 5-6

"-"Please see Supplemental Page"-"

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-4

**Remark on Protest**

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.

Form PCT/ISA/2.10 (continuation of first sheet (2)) (July 2009)
This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fee must be paid.

Group I: Claims 1-4 are directed toward a navigation system for an emergency alerting system.

Group II: Claims 5-6 are directed toward a method for performing navigation redirect.

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The special technical features of Group I include a plurality of active emergency alerting system alerts; a plurality of weather radar data; and displaying a visual representation of weather radar data, which are not present in Group II.

The special technical features of Group II include instructing a session manager device to update an alert database; determining that an alert area intersects an active navigation session; instructing a navigation engine to reroute said active navigation session to avoid said alert area; and updating said active navigation session with said route information on a navigating subscriber device, which are not present in Group I.

The common technical feature shared by Groups I-II is a navigation system, comprising: a commercial mobile service provider (CMSP) gateway in an emergency alerting system. However, this common feature is previously disclosed by US 2012/0129569 A1 (Courtney). Courtney discloses a navigation system (a mobile device receiving GPS prompts (navigation system); Abstract), comprising: a CMSP gateway in an emergency alerting system (a commercial mobile alert system (CMSP gateway) for emergency prompts; Abstract).

Since the common technical feature is previously disclosed by the Courtney reference, this common feature is not special and so Groups I-II lack unity.