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[Continued on next page]

(54) Title: TECHNIQUES FOR MACHINE LANGUAGE TRANSLATION OF TEXT FROM AN IMAGE BASED ON NON-TEXTUAL CONTEXT INFORMATION FROM THE IMAGE

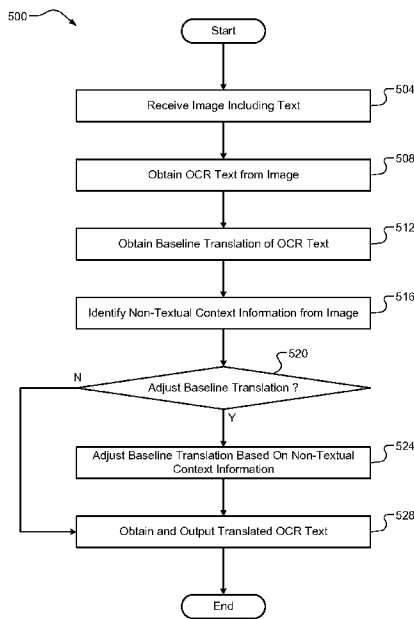
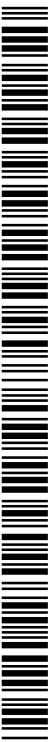


FIG. 5

(57) Abstract: A computer-implemented technique can include receiving, at a server from a mobile computing device, the server having one or more processors, an image including a text. The technique can include obtaining, at the server, optical character recognition (OCR) text corresponding to the text, the OCR text having been obtained by performing OCR on the image. The technique can include identifying, at the server, non-textual context information from the image, the non-textual context information (i) representing context information other than the text itself and (ii) being indicative of a context of the image. The technique can include based on the non-textual context information, obtaining, at the server, a translation of the OCR text to a target language to obtain a translated OCR text. The technique can include outputting, from the server to the mobile computing device, the translated OCR text.





Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *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:
25 February 2016

Published:

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

INTERNATIONAL SEARCH REPORT

International application No PCT/US2015/036603

A. CLASSIFICATION OF SUBJECT MATTER INV. G06F17/28 G06K9/00 G06K9/32 G06K9/72 ADD.				
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) G06F G06K				
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) EPO-Internal, WPI Data				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
Y	US 2014/081619 A1 (SOLNTSEVA EKATERINA [RU] ET AL) 20 March 2014 (2014-03-20) abstract paragraphs [0032] - [0057] -----	1-20		
Y	US 2013/108115 A1 (HWANG KYUWOONG [KR] ET AL) 2 May 2013 (2013-05-02) abstract paragraphs [0078] - [0103] -----	1-20		
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.				
* Special categories of cited documents : <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> "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 </td> <td style="width: 50%; border: none; vertical-align: top;"> "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family </td> </tr> </table>			"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 "&" document member of the same patent family
"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 "&" document member of the same patent family			
Date of the actual completion of the international search 23 December 2015	Date of mailing of the international search report 11/01/2016			
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Woods, Justin			

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2015/036603

Box No. II 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.: **3, 4, 13, 14(all partially)**
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:
see FURTHER INFORMATION sheet PCT/ISA/210

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. III 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:

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 an 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.:

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 3, 4, 13, 14(all partially)

The description paragraphs 31-32 states what is deemed to be non-contextual context information, explicitly excluding certain types of information from falling under the definition.

(from paragraph 31)

non-textual context information is information extracted or derived from the image (e.g., internal to the image) and not information about the image (e.g., external to the image), such as metadata or other attributes associated with the image or the image file. Examples of the non-textual context information include shapes, colors, and objects, such as features or objects in the background of the image. Non-textual context information can also be obtained from a foreground of the image. Additionally, non-textual context information can also include attributes of the text itself, such as its font.

Paragraph 32 then specifically mentions examples of other information which is not to be considered as non-textual context information: Other information can also be used to further augment these techniques, geo-location of the user's mobile computing device and their past behavior (or "user history"). This information could be indicative of a type of location at which the image was captured, which can be used to augment the non-textual context information identification.

As the claims should be interpreted in the light of the description, such an interpretation has been implicitly made for all claims for the purpose of search.

However, the description (paragraph 32) states that it is using this sort of information that the source language and the type of location are established

However, the only way of determining the source language (claims 3 and 13) and the type of location (claims 4 and 14) disclosed in the application as originally filed, is to use location information, which is expressly indicated as not being non-textual contextual information. In the absence of any other way of making the required identifications, without interpreting the claims in a manner expressly disallowed the description, claims 3, 4, 13 and 14 fail to meet the requirements of Articles 5 and 6 PCT. The search has thus been restricted to the disclosed embodiments, in which it is the other information which is used to make the determinations.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has

INTERNATIONAL SEARCH REPORT

International Application No. PCT/ US2015/ 036603

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guidelines C-IV, 7.2), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/036603

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2014081619	A1	20-03-2014	NONE

US 2013108115	A1	02-05-2013	CN 103765440 A 30-04-2014
			EP 2751741 A2 09-07-2014
			JP 2014529822 A 13-11-2014
			KR 20140059834 A 16-05-2014
			US 2013108115 A1 02-05-2013
			WO 2013032639 A2 07-03-2013
