Title: PREDICTIVE TEXT ENTRY FOR INPUT DEVICES

Abstract: Methods, systems, and apparatus, including computer program products, for providing predictive text functionality to input devices. In one aspect, a method includes receiving a selection of a first character from a plurality of characters displayed in a virtual representation of an input device; generating one or more first selectable suggestions based on the first character; and displaying the one or more first selectable suggestions proximate to the first character in the virtual representation of the input device. The first selectable suggestions are displayed closer to the first character than any of the plurality of characters normally displayed in the virtual representation of the input device.
A. CLASSIFICATION OF SUBJECT MATTER


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

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

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

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<td>X</td>
<td>Wo 2009/034220 AI (ELEKTROBIT WI RELESS COMM OY [FI] ; VATJUS-ANTTILA JARKKO [FI] ; UHARI IL) 19 March 2009 (2009-03-19) abstract page 3, line 7 - line 24; figure 1 page 4, line 6 - page 5, line 8; figure 3 page 8, line 15 - line 29; figure 7 page 8, line 30 - page 9, line 2; figure 8 page 10, line 27 - page 11, line 5</td>
<td>12-15, 18, 21</td>
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</table>

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle of 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

"Z" document member of the same patent family

Date of the actual completion of the international search: 30 June 2011

Date of mailing of the international search report: 19/08/2011

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:

Valin, Steven
**INTERNATIONAL SEARCH REPORT**

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.: 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. 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:

see additional sheet

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.
International Application No. PCT/US2010/054170

FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-11, 16, 17, 19, 20

Text input method, system and computer program wherein based upon receiving a selection of a first character or virtual key from a plurality of displayed characters or virtual keys, one or more selectable suggestions are displayed proximate the first displayed character or virtual key and closer to it than to the other displayed characters or virtual keys.

2. claims: 12-15, 18, 21

Text input method, system and computer program wherein a first n-gram representing a sequence of characters is entered by the user and displayed in a text entry box; in response to receiving a selection of a character from a plurality of displayed characters, the selected character is concatenated to the end of the first n-gram to produce a second n-gram; the second n-gram is then compared to n-grams stored in a language model directed to a particular application associated with the text box to identify input suggestions for the second n-gram; finally, selectable suggestions are generated from the identified input suggestions and displayed proximate to the selected character.
<table>
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Form PCT/ISA/210 (patent family annex) (April 2005)