



- (51) International Patent Classification:
G06F 3/048 (2013.01)
- (21) International Application Number:
PCT/CN2013/076421
- (22) International Filing Date:
29 May 2013 (29.05.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
201310153827.1 27 April 2013 (27.04.2013) CN
- (71) Applicant: **SPREADTRUM COMMUNICATIONS (SHANGHAI) CO., LTD.** [CN/CN]; Building No. 1, Spreadtrum Center, Lane 2288, Zuchongzhi Road, Zhangjiang High-tech Park, Pudong New Area, Shanghai 201203 (CN).
- (72) Inventors: **XIA, Lu**; Building No. 1, Spreadtrum Center, Lane 2288, Zuchongzhi Road, Zhangjiang High-tech Park, Pudong New Area, Shanghai 201203 (CN). **YIN, Linna**;

Building No. 1, Spreadtrum Center, Lane 2288, Zuchongzhi Road, Zhangjiang High-tech Park, Pudong New Area, Shanghai 201203 (CN).

- (74) Agent: **SHANGHAI SAVVY INTELLECTUAL PROPERTY AGENCY**; Room 341, Building 1, 789 West Tian-shan Road, Changning District, Shanghai 200335 (CN).
- (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, 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, 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.
- (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,

[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR CONTROLLING A TOUCHSCREEN DISPLAY FOR ONE HAND OPERATION

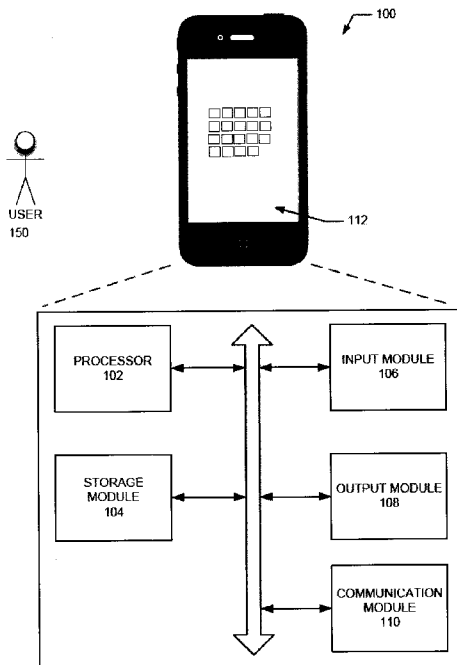
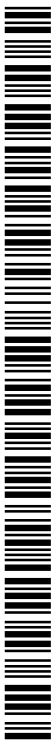


FIG. 1

(57) Abstract: A method for controlling a touchscreen display for operation by one hand includes: receiving, via the touchscreen, at least one point of contact on the touchscreen generated by one or more fingers of a user, the touchscreen including a plurality of icons; detecting, by at least one processing device, a total number of the points of contact on the touchscreen and respective coordinates of the points of contact; determining, based on the total number of the points of contact and the respective coordinates of the points of contact, which hand the user is using to operate the touchscreen; and controlling the touchscreen to display the plurality of icons based on a result of the determining.





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).

— 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))

— upon request of the applicant, before the expiration of the time limit referred to in Article 21(2)(a)

Published:

— with international search report (Art. 21(3))

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

3 April 2014

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2013/076421

A. CLASSIFICATION OF SUBJECT MATTER

G06F 3/048 (2013.01) i

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: 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 practicable, search terms used)

CNABS, CNKI, DWPI, SIPOABS: touch; point; finger; coordinates; left; right; mode

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	CN 103513817 A (SPREADTRUM COMMUNICATIONS (SHANGHAI) CO., LTD.) 15. January 2014 (15.01.2014) see paragraphs [0006]-[0037]	1, 2, 8, 9, 15, 16
E	CN 103379211 A (HUAWEI DEVICE CO., LTD.) 30. October 2013 (30.10.2013) see paragraphs [0026]-[0065]	1, 8, 15
X	CN 102479035 A (HANVON TECHNOLOGY CO., LTD.) 30. May 2012 (30.05.2012) see paragraphs [0003]-[0018]	1, 2, 5, 6, 8, 9, 12, 13, 15, 16, 19, 20
Y		7, 14
Y	CN 102163116 A (ACER INC.) 24. August 2011 (24.08.2011) see paragraphs [0005]-[0012]	7, 14
A	US 2010/0134423 A1 (AT & T MOBILITY II LLC) 03. June 2010 (03.06.2010) see the whole document	1-20

 Further documents are listed in the continuation of Box C. See patent family annex.

* 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
20. January 2014 (20.01.2014)Date of mailing of the international search report
06 Feb. 2014 (06.02.2014)Name and mailing address of the ISA/CN
The State Intellectual Property Office, the P.R.China
6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China
100088
Facsimile No. 86-10-62019451Authorized officer
LIU, Haoran
Telephone No. (86-10)62411685

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2013/076421

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 103513817 A	15.01.2014	None	
CN 103379211 A	30.10.2013	WO 2013/159684 A1	31.10.2013
CN 102479035 A	30.05.2012	None	
CN 102163116 A	24.08.2011	None	
US 2010/0134423 A1	03.06.2010	US 8368658 B2	05.02.2013