(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 September 2007 (07.09.2007)

PCT

(10) International Publication Number
WO 2007/100687 A3

(51) International Patent Classification:
G06F 9/455 (2006.01)

(21) International Application Number:
PCT/US2007/004772

(22) International Filing Date:
23 February 2007 (23.02.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/364,581 28 February 2006 (28.02.2006) US

(71) Applicant *(for all designated States except US)*: **MICROSOFT CORPORATION** [US/US]; One Microsoft Way, Redmond, Washington 98052-6399 (US).

(72) Inventors: **GUMMALLA, Madhuri**; One Microsoft Way, Redmond, Washington 98052-6399 (US). **MISHRA, Abhishek, K.**; One Microsoft Way, Redmond, Washington 98052-6399 (US).

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

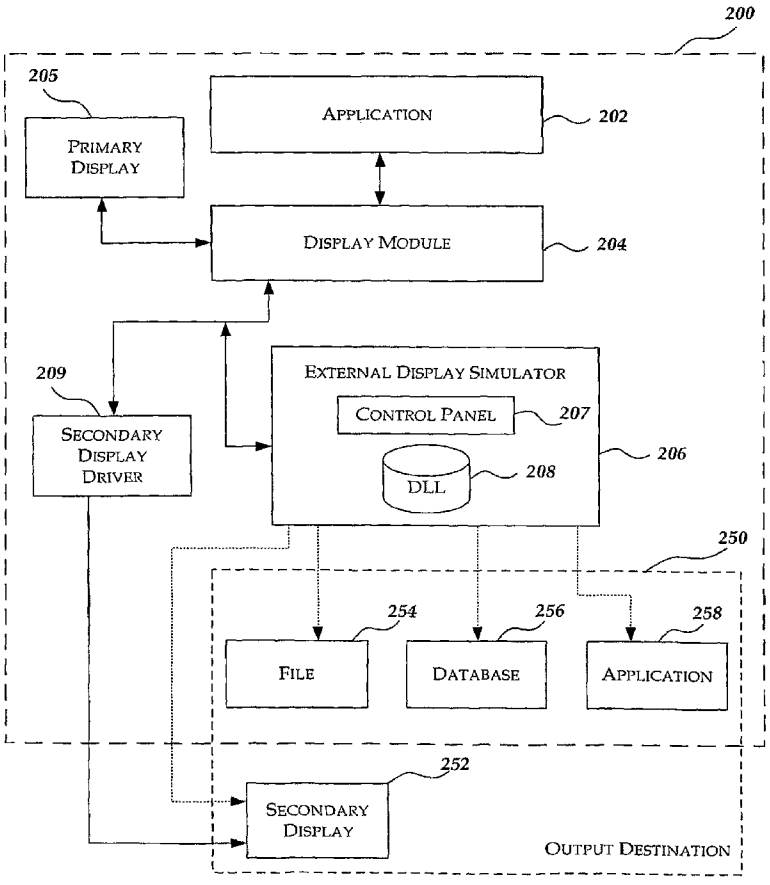
(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

[Continued on next page]

(54) Title: EXTERNAL DISPLAY SIMULATOR



(57) Abstract: An external display simulator is configured to internally verify data to be transmitted from a computing device to an output device by implementing display driver functionality. The external display simulator intercepts data output from an application executing on the computing device. The external display simulator supports many different display resolutions and modes. The external display simulator determines an appropriate display mode and forwards the data to a corresponding output destination. The data may then be compared to an expected result to determine whether the data is verified.

WO 2007/100687 A3

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

— *with international search report*

(88) Date of publication of the international search report:
1 November 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/004772

A. CLASSIFICATION OF SUBJECT MATTER

G06F 9/455(2006.01)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)

IPC08: G06F

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

Korean utility models and applications for utility models since 1975

Japanese utility models and applications for utility models since 1975

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

eKIPASS(Kipo Internal), Google, YesKisti

keyword: (display, screen), (develop*, test), (device, embedded, terminal), (simulator, simulation)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005/0125211 A1 (NAHATA, A. et al.) 09 JUNE 2005 See figures 3, 5 and their descriptions.	1-20
A	EP 1067806 A1 (CANAL + SOCIETE ANONYME) 10 JANUARY 2001 See figure 7 and its description.	1-20
A	US 2004/0027326 A1 (HAYS, G. et al.) 12 FEBULARY 2004 See figures 1, 4 and their descriptions.	1-20
PA	US 2006/0174217 A1 (YAN, X. et al.) 03 AUGUST 2006 See figure 4,5 and their descriptions; claim 1.	1-20

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

☒ See patent family annex.

* 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 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	Date of mailing of the international search report
14 AUGUST 2007 (14.08.2007)	**14 AUGUST 2007 (14.08.2007)**

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

YOON, Hye Sook

Telephone No. 82-42-481-8370

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2007/004772

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US2005/125211 A1	09.06.2005	NONE	
EP01067806 A1	10.01.2001	AU2000/52406 A1	30.01.2001
		CA2377789 A1	18.01.2001
		CN1373970 A	09.10.2002
		EP01201090 A1	02.05.2002
		KR1020020035561 A	11.05.2002
		PL362901 A1	02.11.2004
		WO2001/05162 A1	18.01.2001
US2004/0027326 A1	12.02.2004	NONE	
US2006/0174217 A1	03.08.2006	CN1815439 A	09.08.2006
		EP01686461 A2	02.08.2006
		JP2006/209114A2	10.08.2006
		KR2006/088010 A	03.08.2006