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(54) **Title:** GESTURING WITH A MULTIPOINT SENSING DEVICE

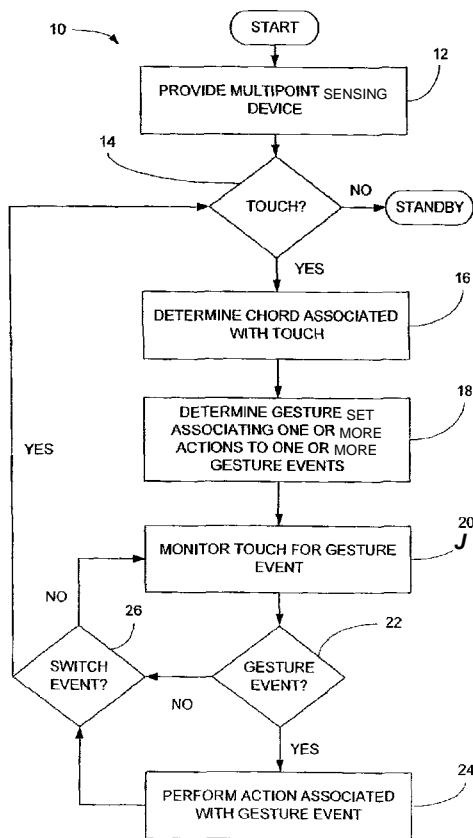


FIG. 1

(57) **Abstract:** Methods and systems for implementing gestures with sensing devices are disclosed. More particularly, methods and systems related to gesturing with multipoint sensing devices are disclosed.

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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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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# INTERNATIONAL SEARCH REPORT

International application No

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**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. G06F3/048 G06F3/038

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 , IBM-TDB**

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
L, P, X	WO 2007/089766 A (APPLE INC.) 9 August 2007 (2007-08-09) the whole document	1-72
X	WO 99/38149 A (WESTERMAN ET AL.) 29 July 1999 (1999-07-29)  page 12, line 23 - page 13, line 6 page 65, line 9 - page 73, line 12; figures 1.39A-40B	1-19, 22-45, 49-55, 70, 71

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
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- '&' document member of the same patent family

Date of the actual completion of the international search

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Date of mailing of the international search report

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**Taylor, Paul**

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/051727

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of the relevant passages	Relevant to claim No
X	<p>US 2005/052427 AI (WU ET AL. ) 10 March 2005 (2005-03-10)</p> <p>paragraph [0018] - paragraph [0039] ; figures 1-9</p>	<p>1, 2, 4, 5, 7-15, 18, 19, 23, 24, 26, 27, 29, 30, 32, 33, 35-41 , 44, 45, 49-55, 70-72</p>
X	<p>US 5 825 352 A (BISSET ET AL. ) 20 October 1998 (1998-10-20)</p> <p>col umn 12, line 15 - col umn 13, line 58 column 5, line 6 - column 7, line 3; figures 1-3 .7A-7F</p>	<p>1-6 , 9-15, 17 , 23-30, 33, 35-41 , 43,49-53</p>
X	<p>US 2005/162402 AI (WATANACHOTE ) 28 July 2005 (2005-07-28)</p> <p>paragraph [0110] - paragraph [0123] ; figures 24A-25D</p>	<p>1, 2, 4-17, 23-38, 40-43, 49-53</p>
X	<p>WESTERMAN W ET AL: "MULTI-TOUCH- A NEW TACTILE 2-D GESTURE INTERFACE FOR HUMAN-COMPUTER INTERACTION" PROCEEDINGS OF THE HUMAN FACTORS AND ERGONOMICS SOCIETY. ANNUAL MEETING , 2001 , pages 632-636, XP008070547</p> <p>the whole document</p>	<p>1, 2, 4, 5 , 7-18, 23, 24, 26, 28-31 , 33-38, 40-44, 46, 49-53</p>
X	<p>EP 1 517 228 A (SMART TECHNOLOGIES INC. ) 23 March 2005 (2005-03-23)</p>	<p>1-5, 7-17 , 51-53</p>
A	<p>paragraph [0009] - paragraph [0041] ; figures 1-4f</p>	<p>23-28, 32-37, 40, 42, 46</p>
X	<p>EP 0 394 614 A (IBM CORP. ) 31 October 1990 (1990-10-31) page 6, line 28 - page 10, line 16; figures 2-5</p>	<p>51-53</p>
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# INTERNATIONAL SEARCH REPORT

International application No <b>PCT/US2008/051727</b>
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category'	Citation of document with indication, where appropriate, of the relevant passages	Relevant to claim No
X	EP 0 926 588 A (SHARP K.K.) 30 June 1999 (1999-06-30) paragraph [0013] - paragraph [0015] paragraph [0022] - paragraph [0037] paragraph [0072] - paragraph [0095] -----	51-53,56
X	EP 1 233 330 A (WACOM CO. LTD.) 21 August 2002 (2002-08-21) paragraph [0007] - paragraph [0018] paragraph [0065] - paragraph [0071] paragraph [0091] - paragraph [0096] -----	56,57

# INTERNATIONAL SEARCH REPORT

International application No:  
PCT/US2008/051727

## 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 allsearchable LS-LS.
  
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

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

1. claims: 1-53

Electronic system (claims 1-22) having a multipoint sensing device that provides gestural recognition and control, gestural control method (claims 23-51) using multiple detection points to identify chords which associate commands to gestures and control operation (claims 51-53) which uses detected gestures to initiate commands.

1.1. claims: 54, 55

Gesture operation by monitoring touch motion (not restricted to multipoint sensing) and performing a first action or second action depending on state of motion

1.2. claims: 70-72

Gesture operation comprising detecting the state of a first finger and the state of one or more additional fingers. Depending on these states, a first or second input mode is implemented.

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2. claims: 56,57

Control operation using two input devices by monitoring input events at the first and second devices. The first input device includes a touch sensitive surface, the second does not.

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3. claims: 58-66

Control operation (claims 58-65) in which a list of input functions is provided and the functions are linked to chords, control panel (claim 66) displaying a list of menu input functions and the gestures associated with the command initiated by said input function and further having a user set up a gesture map by assigning chords to these input functions

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4. claims: 67-69

Designing gestures by ranking chords according to ease of performance and assigning these to operations based on frequency of use of the latter.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/051727

Patent document cited in search report	A	Publication date		Patent family member(s)	Publication date
WO 2007089766	A	09-08-2007	AU	2007209926 AI	09-08-2007
			US	2007177804 AI	02-08-2007
<hr style="border-top: 1px dashed black;"/>					
WO 9938149	A	29-07-1999	AU	759440 B2	17-04-2003
			AU	2467399 A	09-08-1999
			CA	2318815 AI	29-07-1999
			EP	1058924 AI	13-12-2000
			IL	137478 A	20-11-2005
			JP	2002501271 T	15-01-2002
			JP	2007226820 A	06-09-2007
			JP	2007242035 A	20-09-2007
			JP	2007184006 A	19-07-2007
			JP	2007193840 A	02-08-2007
			JP	2007184007 A	19-07-2007
			JP	2007184008 A	19-07-2007
			JP	2007213599 A	23-08-2007
			KR	20060053010 A	19-05-2006
			KR	20060058784 A	30-05-2006
			KR	20060059263 A	01-06-2006
			KR	20060053011 A	19-05-2006
			KR	20060059264 A	01-06-2006
			KR	20060059265 A	01-06-2006
			KR	20060053012 A	19-05-2006
			KR	20060058731 A	30-05-2006
			KR	20060058732 A	30-05-2006
			US	6323846 BI	27-11-2001
			US	2002015024 AI	07-02-2002
<hr style="border-top: 1px dashed black;"/>					
US 2005052427	AI	10-03-2005	JP	2005100391 A	14-04-2005
<hr style="border-top: 1px dashed black;"/>					
US 5825352	A	20-10-1998	NONE		
<hr style="border-top: 1px dashed black;"/>					
US 2005162402	AI	28-07-2005	NONE		
<hr style="border-top: 1px dashed black;"/>					
EP 1517228	A	23-03-2005	CA	2481396 AI	16-03-2005
			JP	2005108211 A	21-04-2005
			US	2005057524 AI	17-03-2005
<hr style="border-top: 1px dashed black;"/>					
EP 0394614	A	31-10-1990	CA	2007411 AI	28-10-1990
			DE	69026417 DI	15-05-1996
			DE	69026417 T2	14-11-1996
			JP	1868440 C	26-08-1994
			JP	3020812 A	29-01-1991
			JP	5080009 B	05-11-1993
			US	5157384 A	20-10-1992
<hr style="border-top: 1px dashed black;"/>					
EP 0926588	A	30-06-1999	JP	11184669 A	09-07-1999
<hr style="border-top: 1px dashed black;"/>					
EP 1233330	A	21-08-2002	JP	2002244781 A	30-08-2002
			US	2002109671 AI	15-08-2002
			US	2007103435 AI	10-05-2007
<hr style="border-top: 1px dashed black;"/>					