

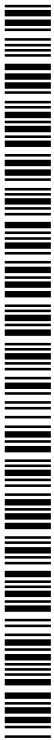


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(54) Title: PROXIMITY SENSOR AND IMAGE SENSOR BASED GESTURE DETECTION

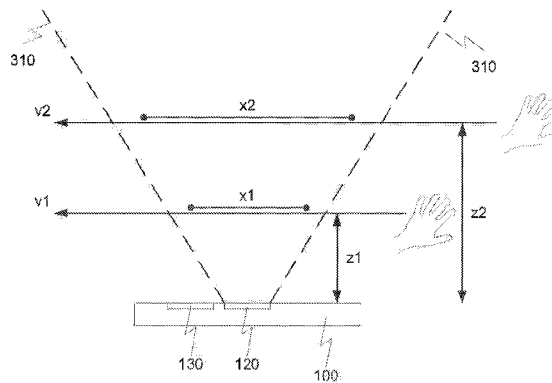


FIG. 7

(57) Abstract: Systems, methods, and non-transitory computer-readable media are disclosed. For example, a dual sensor control device is disclosed that includes at least one processor for receiving information from a proximity sensor and an image sensor. The processor may be configured to receive first data from the proximity sensor while the image sensor is in a first state, determine, using the first data, a presence of an object in proximity to the proximity sensor. The processor may also be configured to output, based on the determined presence of the object in proximity to the proximity sensor, a signal to the image sensor to cause the image sensor to enter a second state, different from the first state. The processor may also be configured to receive second data from the image sensor in the second state, and output at least one of a message and a command associated with the second data.

INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - G06F 3/042 (2014.01) CPC - G06F3/017; G06F3/016; G06F3/011; G06F3/0488 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 3/042 (2014.01) CPC: G06F3/017; G06F3/016; G06F3/011; G06F3/0488 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched IPC: G06F 3/042 (2014.01) CPC: G06F3/017; G06F3/016; G06F3/011; G06F3/0488; G06F 3/0321; G06F3/0346; USPC: 463/30-33,36,37 (keyword delimited) Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Patbase, Google Patents, Google Scholar Search terms used: Proximity, sensor, detector, image, ccd, cmos, light, ir, ultrasonic, swir, reflectivity, processor, microprocessor, cpu, controller, second, two, three, third, state, message, data, mode, hand, finger, out, display, produce, command, instruction, dimension, gesture, movement		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X - Y	WO 2013/021385 A2 (KATZ et al.) 14 February 2013 (14.02.2013) pg. 3, ln 3-15; pg. 4, ln 9-13; pg. 20, ln 12-32; pg. 25, ln 10-pg. 26, ln 13; pg. 31, ln 21-pg. 32, ln 6; pg. 35, ln 30-pg. 36, ln 2; pg. 37, ln 18-21; pg. 40, ln 31-pg. 41, ln 13	1-11, 13-16, 20-31, 33-35 ----- 12, 17-19, 32, 36-40
Y	US 2012/0287035 A1 (VALKO et al.) 15 November 2012 (15.11.2012) para [0005], [0007], [0023]-[0025], [0029], [0085]-[0086], [0105], [0107]	12, 17, 18, 36-40
Y	US 2012/0306770 A1 (MOORE et al.) 6 December 2012 (6.12.2012) para [0006], [0045], [0062]	19
Y	US 2012/0176303 A1 (MIYAKE) 12 July 2012 (12.07.2012) para [0016], [0030], [0093]	32, 40
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201		Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774