

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

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
31 March 2022 (31.03.2022)



(10) International Publication Number  
**WO 2022/062895 A1**

(51) International Patent Classification:  
*G06F 3/0362* (2013.01)

(21) International Application Number:  
PCT/CN2021/116988

(22) International Filing Date:  
07 September 2021 (07.09.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
17/030,211 23 September 2020 (23.09.2020) US

(71) Applicant: **RAZER (ASIA-PACIFIC) PTE. LTD.**  
[SG/SG]; RAZER SEA HQ, 1 One-north Crescent, #02-01,  
Singapore 138538 (SG).

(72) Inventor; and

(71) Applicant (for CN only): **ZHANG, Allen** [CN/CN]; East  
Wing 3rd Floor Block 2, Phase 1 of Vision Shenzhen Busi-  
ness Park, Keji South Road Hi-Tech Industrial Park, Shen-  
zhen, Guangdong 518057 (CN).

(72) Inventors: **CHIN, Wooi Liang**; RAZER SEA HQ, 1 One-  
north Crescent, #02-01, Singapore 138538 (SG). **LEE, Kah  
Yong**; RAZER SEA HQ, 1 One-north Crescent, #02-01,  
Singapore 138538 (SG). **LIEN, Jian Yao**; RAZER SEA  
HQ, 1 One-north Crescent, #02-01, Singapore 138538 (SG).  
**RIZVI, Farrukh Raza**; RAZER SEA HQ, 1 One-north  
Crescent, #02-01, Singapore 138538 (SG). **GWEE, Chang  
Sern**; RAZER SEA HQ, 1 One-north Crescent, #02-01, Sin-  
gapore 138538 (SG).

(74) Agent: **CHANG TSI & PARTNERS**; 6-8th Floor, Tower  
A, Hundred Island Park Bei Zhan Bei Jie Street, Xicheng  
District, Beijing 100044 (CN).

(54) Title: INPUT DEVICE AND METHOD FOR PROVIDING SCROLLING INPUT TO COMPUTING DEVICE

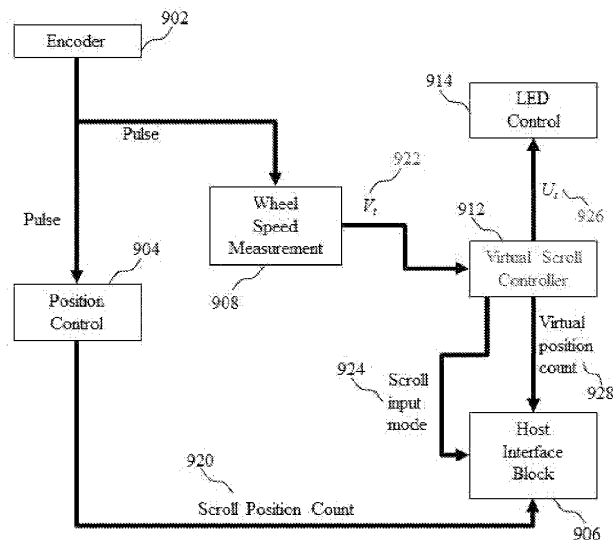


FIG. 9B

(57) Abstract: An input device (900) may include a rotatable member (952), a virtual scroll controller (912) and a host interface block (906). The virtual scroll controller (912) may be configured to select a virtual scroll state from a plurality of virtual scroll states based on a rotational velocity of the rotatable member (952). Each virtual scroll state may be associated with a respective output function. The virtual scroll controller (912) may be further configured to compute an output velocity according to the output function associated with the selected virtual scroll state. The virtual scroll controller (912) may be further configured to generate a virtual position count (928) based on the computed output velocity. The host interface block (906) may be configured to send the generated virtual position count (928) to a computing device connected to the input device (900).

[Continued on next page]

WO 2022/062895 A1

**(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, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, 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, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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, ST, SZ, TZ, 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).

**Published:**

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