# UNITED STATES PATENT AND TRADEMARK OFFICE

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| LENOVO - JVL<br>C/O LESLIE A. VAN LEEUWEN<br>6123 PEBBLE GARDEN CT.<br>AUSTIN, TX 78739 | EDWARDS, CAROLYN R |

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

*Ex parte* AARON M. STEWART, JEFFREY E. SKINNER,
JONATHAN J. YU,
and
LANCE W. CASSIDY

Appeal 2018-001960
Application 14/517,894[1]
Technology Center 2600

Before CARLA M. KRIVAK, HUNG H. BUI, and JON M. JURGOVAN,
*Administrative Patent Judges.*

BUI, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants seek our review under 35 U.S.C. § 134(a) from the
Examiner's Final Rejection of claims 1–20, which are all the claims pending
in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.[2]

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[1] According to Appellants, the real party in interest is Lenovo (Singapore)
PTE. LTD. App. Br. 2.

[2] Our Decision refers to Appellants' Appeal Brief ("App. Br.") filed July
10, 2017; Reply Brief ("Reply Br.") filed December 17, 2017; Examiner's
Answer ("Ans.") mailed October 18, 2017; Final Office Action ("Final
Act.") mailed February 10, 2017; and original Specification ("Spec.") filed
October 19, 2014.

STATEMENT OF THE CASE

Appellants' invention relates to a method and system for "establishing touch zones of soft keys of a soft keypad that is displayed on a touch-screen device" by "identif[ying] a fingertip size associated with a user of the touch-screen device" and establishing "[t]ouch zones of one or more keys . . . so that the size of the touch zones is based on the fingertip size." Abstract. Particularly, a "smaller fingertip size results in larger touch zones within the soft keys displayed on [the] soft keypad while, conversely, [a] larger fingertip size results in smaller touch zones within the same soft keys." Spec. ¶ 22.

Claims 1, 8, and 15 are independent. Representative claim 1 is reproduced below:

> 1. A machine-implemented method comprising:
>
> displaying, on a display of a touch-screen device, a soft keypad that comprises a plurality of soft keys;
>
> identifying a fingertip size associated with a user of the touch-screen device; and
>
> establishing one or more touch zones, wherein each of the touch zones is within one of the soft keys, wherein a size of at least one of the touch zones is based on the fingertip size, and wherein the size of the touch zone reduces as the fingertip size increases.

App. Br. 14–19 (Claims App'x).

*Evidence Considered*

| Yee | US 2011/0254865 A1 | Oct. 20, 2011 |
|-----|--------------------|--------------|
| Ohta | US 2007/0008298 A1 | Jan. 11, 2007 |
| Kobayashi | US 2003/0222858 A1 | Dec. 4, 2003 |

*Examiner's Rejections*

(1)     Claims 15–20 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Final Act. 2–4.

(2)     Claims 1–3, 5–10, 12–17, 19, and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yee and Ohta. Final Act. 7–11.

(3)     Claims 4, 11, and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yee, Ohta, and Kobayashi. Final Act. 11–12.

ANALYSIS

*§ 101 Rejection of Claims 15–20*

Independent claim 15 recites a "computer program product comprising: a computer readable storage medium comprising a set of computer instructions" that execute a number of steps.

The Examiner finds the term "computer readable storage medium" recited in claims 15–20 can be broadly interpreted to cover both "non-transitory media and transitory propagating signal per se" in light of Appellants' Specification and, as such, is directed to cover non-statutory subject matter under 35 U.S.C. § 101. Final Act. 2–3; Ans. 2–3 (citing Spec. ¶ 20).[3] Appellants argue the broadest reasonable interpretation of "computer readable *storage* medium" does not encompass transitory and propagated signals. App. Br. 5. Particularly, Appellants argue "computer readable *storage* medium" is defined by Appellants' Specification to be a tangible "computer readable medium" that is not a "computer readable signal

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[3] The Examiner cites to paragraph 20 of the published version of Appellants' Specification (US 2016/0110098 A1), which corresponds to paragraph 8 in the Specification as filed.

medium," where "computer readable *signal* medium" includes "all nonstatutory (disallowed) subject matter." Reply Br. 2 (citing Spec. ¶¶ 8–9); *see also* Appeal Br. 6–7.

Appellants' arguments are not persuasive. Appellants' Specification does not provide an explicit and exclusive definition of the claimed term "computer readable storage medium," and merely provides discussion of non-limiting examples of the term. Additionally, the Specification's description of "computer readable storage medium" does not unambiguously disclaim transitory forms, rather it encompasses media for transitorily carrying a signal as follows:

> The computer readable medium may be a computer readable signal medium or a computer readable storage medium. A *computer readable storage medium may be, for example, but not limited to,* an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, or device, or any suitable combination of the foregoing. More specific examples *(a non-exhaustive list) of the computer readable storage medium* would include the following: an electrical connection having one or more wires, a portable computer diskette, a hard disk, a random access memory (RAM), a read-only memory (ROM), an erasable programmable read-only memory (EPROM or Flash memory), an optical fiber, a portable compact disc read-only memory (CD-ROM), an optical storage device, a magnetic storage device, or any suitable combination of the foregoing. In the context of this document, a *computer readable storage medium may be* any tangible medium that can contain, or store a program for use by or in connection with an instruction execution system, apparatus, or device.
>
> A computer readable signal medium *may include* a propagated data signal with computer readable program code embodied therein, for example, in baseband or as part of a carrier wave. Such a propagated signal *may take any of a variety of forms, including, but not limited to,* electro-magnetic, optical, or any suitable combination thereof. A computer readable *signal*

> *medium may be* any computer readable medium *that is not a computer readable storage medium* and that can communicate, propagate, or transport a program for use by or in connection with an instruction execution system apparatus, or device. As used herein, a computer readable storage medium does not include a computer readable signal medium.

Spec. ¶¶ 8–9 (emphases added).

Because Appellants have not offered a persuasive reason to depart from the usual presumptions regarding claims drawn to computer readable storage media, we agree with the Examiner the phrase "computer readable storage medium comprising a set of computer instructions," when given its broadest reasonable interpretation in light of the Specification, includes transitory signals, which are non-statutory subject matter. Ans. 3 (citing Spec. ¶ 8);[4] Final Act. 2–4. *See In re Nuijten,* 500 F.3d 1346, 1356–57 (Fed. Cir. 2007) (transitory embodiments are not directed to statutory subject matter); *see also Ex parte Mewherter,* 107 USPQ2d 1857, 1862 (PTAB 2013) (precedential) (finding a machine readable storage medium non-statutory under § 101).

Thus, for the reasons discussed above, we sustain the Examiner's rejection of claim 15, as well as dependent claims 16–20 not separately argued, under 35 U.S.C. § 101.[5]

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[4] As explained above, the Examiner cites to paragraph 20 of the published version of Appellants' Specification (US 2016/0110098 A1), which corresponds to paragraph 8 in the Specification as filed.

[5] As Examiner indicates (Final Act. 4), amending claim 15 by adding "non-transitory" to the claimed "computer readable storage medium" would overcome the § 101 rejection of claims 15–20.

*§ 103 Rejections of Claims 1–20*

With respect to claim 1, the Examiner finds Yee's method for dynamically correlating virtual keyboard dimensions to user finger size teaches "establishing one or more touch zones" wherein "each of the touch zones is within one of the soft keys" and "a size of at least one of the touch zones is based on the fingertip size." Final Act. 8 (citing Yee ¶ 20, Figs. 2, 5, and 10). The Examiner further finds "Yee fails to <u>explicitly</u> disclose . . . if the dimensions of the touch zones and icons would be made larger or smaller based on the finger size," but Ohta cures the deficiencies of Yee. Ans. 4. Particularly, the Examiner finds Ohta's Figures 12B–12C "teach[] that the touch sensing area (shaded region) [is] based on the finger size, for the thin finger [touch sensing area] would be larger in size (12B)" and "inversely the touch sensing area/touch zone for the thick finger would be made smaller in size (12C)." Ans. 5 (citing Ohta ¶ 11, Figs. 10, 11, and 12A–12C). We do not agree.

We agree with Appellants that Yee and Ohta, alone or in combination, fail to teach or suggest an *inverse relationship* between *the size of a soft key touch zone* (i.e., a touch zone established within one of the soft keys, as claimed) and *the size of the user's fingertip*, as required by claim 1's "the size of the touch zone reduces as the fingertip size increases." App. Br. 8, 10; Reply Br. 3. Rather, "Yee teaches a direct, rather than inverse relationship, between the user's fingertip size and the size of the corresponding touch zones." App. Br. 11 (citing Yee ¶ 3, Fig. 7); *see* Yee ¶¶ 3 ("key icons in the vicinity of the user's gaze may be increased in size commensurate with the dimensions of the user's finger tip"), 17 ("a user

attempting to press the virtual key for the letter 'H' is presented with an icon that is as large as the user's finger tip").

Ohta does not make up for the above-noted deficiencies of Yee. Although Ohta illustrates an inverse relationship between finger size and "operable ranges" on a touch pad of a game machine (*see* Ohta, Figs. 12B and 12C), "that relationship deals with the size of the user's fingertip *when applied to an entire touchpad* and has nothing to do whatsoever with any soft keys displayed on the screen" as claimed. Reply Br. 3 (emphasis added). Appellants' "touch zone" (established within a soft key) is "*the area within the respective soft key that the user has to touch in order* [to] *have the system detect that the key was pressed.*"[6] *See* Spec. ¶ 23 (emphasis added). In contrast, Ohta's *entire touch pad* is sensitive (i.e., touch-sensitive) to the user's finger. *See* Ohta ¶ 11 ("the whole operating range of the touch pad is the one as shown in FIG. 12(A)"), Fig. 12A. In Ohta, the touch pad's "frame[,] . . . provided on an outer periphery of the touch pad," restricts the finger's movement to smaller "operable range" (shaded regions I and II in Figs. 12B–12C). *See* Ohta ¶¶ 9–11, Figs. 11, 12B–12C. Thus, Ohta's operable range "is nothing like the touch zone claimed by Appellants, and does not include any soft keys" of a keypad displayed on a screen. App. Br. 10; *see also* Reply Br. 3.

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[6] As Appellants' Specification explains, reducing the size of the touch zone as the fingertip size increases "makes pressing of an unintended key less likely" because "[t]he user with the *smaller* fingertips needs to touch the *larger* touch zones **440** to press the respective soft keys, while the user with the *larger* fingertips needs to touch the *smaller* touch zones **460** to press the same respective keys." *See* Spec. ¶¶ 23–24 (emphasis added), Fig. 4.

Ohta therefore also does not teach or suggest an inverse relationship between fingertip size and the size of a touch zone established within a soft key, as claimed. The Examiner also has not shown that the additional teachings of Kobayashi make up for the above-noted deficiencies of Yee and Ohta. Thus, for the reasons set forth above, we do not sustain the Examiner's obviousness rejection of independent claim 1, independent claims 8 and 15 reciting similar limitations, and claims 2–7, 9–14, and 16–20 dependent therefrom.

CONCLUSION

On the record before us, we conclude Appellants have not demonstrated the Examiner erred in rejecting claims 15–20 under 35 U.S.C. § 101, but have demonstrated the Examiner erred in rejecting claims 1–20 under 35 U.S.C. § 103.

DECISION

As such, we AFFIRM the Examiner's final rejection of claims 15–20 under 35 U.S.C. § 101.

However, we REVERSE the Examiner's final rejection of claims 1–20 under 35 U.S.C. § 103.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART