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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JERRY HUANG and ZHEN LIU

Appeal 2017-002717
Application 14/094,916
Technology Center 2600

Before CAROLYN D. THOMAS, CARL W. WHITEHEAD JR and
SHARON FENICK, *Administrative Patent Judges*.

WHITEHEAD JR., *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants are appealing the final rejection of claims 1–4, 6, 7 and 9–
22 under 35 U.S.C. § 134(a). Appeal Brief 1. We have jurisdiction under
35 U.S.C. § 6(b) (2012).

We affirm-in-part.

Introduction

The invention is directed to “improving user interaction with a device
or system that has a display.” Specification, paragraph 7.

Illustrative Claim

1. A computational process for adapting a user interface in response to an input source change, the user interface displayed on a touch-responsive screen of a device which also has a processor and memory, the process comprising the steps of:

providing in the device at least two input source identifiers which identify

inputs to the touch-responsive screen and at least two user interface components of a user interface which is displayed on the touch-responsive screen, the user interface having at least two user interface components, each of said user interface components being a button, a menu, a menu item, an icon, a slider, or a window, and each of said user interface components being generated by the device as opposed to being user input;

linking each of the at least two input source identifiers with a respective user interface component in the memory;

the device detecting an input source change, from a first input source

identifier linked with a first user interface component to a second input source identifier linked with a second user interface component;
and

in response to the detecting step, adapting the user interface by doing at least one of the following: removing from user view a first user interface component which is linked with the first input source identifier and is not linked with the second input source identifier, or making visible a second user interface component which is not linked with the first input source identifier and is linked with the second input source identifier;

wherein the process further comprises at least one of the following:

(a) determining whether or not an input source produces touch areas of at least three different sizes which differ from one another in that each of the sizes except the smallest size is at least 30% larger than another of the sizes;

(b) detecting an input source change by checking which device driver is configured in the device to supply input; or

(c) calibrating touch area size categories at least in part by obtaining sample touch areas as calibration inputs.

Rejections on Appeal

Claims 1, 2, 6, 14, 15, 19 and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Perski (US Patent Application Publication 2008/0046425 A1; published February 21, 2008) and Kim (US Patent Application Publication 2010/0017710 A1; published January 21, 2010). Final Action 3–12.

Claim 4 stands rejected under 35 U.S.C. § 103 as being unpatentable over Perski, Kim, Abdo (US Patent Application Publication 2011/0248941 A1; published October 13, 2011) and Robb (US Patent 6,320,570 B2; issued November 20, 2001). Final Action 13–14.

Claim 18 stands rejected under 35 U.S.C. § 103 as being unpatentable over Perski, Kim and Cantrell (US Patent Application Publication 2013/0120278 A1; published May 16, 2013). Final Action 15–16.

Claims 7, 10, 11 and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Perski, Kinoshita (US Patent Application Publication 2010/0095205 A1; published April 15, 2010) and Kim. Final Action 16–21.

Claim 9 stands rejected under 35 U.S.C. § 103 as being unpatentable over Perski, Kinoshita, Kim, Abdo and Robb. Final Action 21–24.

Claim 12 stands rejected under 35 U.S.C. § 103 as being unpatentable over Perski, Kinoshita, Kim and Peng (US Patent Application Publication 2013/0162603 A1; published June 27, 2013). Final Action 24.

Claim 16 stands rejected under 35 U.S.C. § 103 as being unpatentable over Perski, Kim and Peng. Final Action 24-25.

Claim 13 stands rejected under 35 U.S.C. § 103 as being unpatentable over Perski, Kinoshita, Kim and Cantrell. Final Action 25–26.

Claims 3, 17 and 21 stand rejected under 35 U.S.C. § 103 as being unpatentable over Perski, Kim and Urano (US Patent Application

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Publication 2011/0279408 A1; published November 17, 2011). Final Action 27–28.

ANALYSIS

Rather than reiterate the arguments of Appellants and the Examiner, we refer to the Appeal Brief (filed April 30, 2016), the Reply Brief (filed December 7, 2016), the Final Action (mailed February 26, 2016) and the Answer (mailed October 26, 2016) for the respective details.

Appellants group the claim for purposes of appeal and we address the claims accordingly. *See* Appeal Brief 7.

Group I claims 1–3, 6 and 21

Appellants contend the rejection of claim 1 has the following underlined short comings (Appeal Brief 12–13):

- [The rejection] “misinterprets Perski’s user *inputs* as user *interface components*, contrary to Applicant’s unanswered argument and contrary to the plain language of the claim.”

We do not find Appellants’ argument persuasive of Examiner’s error because “Appellant acknowledges that user interface components are known. Something in Perski displays the user input, and that something would likely involve some kind of user interface component, e.g., a window.” Reply Brief 5.

- [The rejection] “fails to clearly map the claimed ‘input source identifiers’ to a specific teaching in a reference.”

Perski's Figures 8a and 8b are reproduced below:

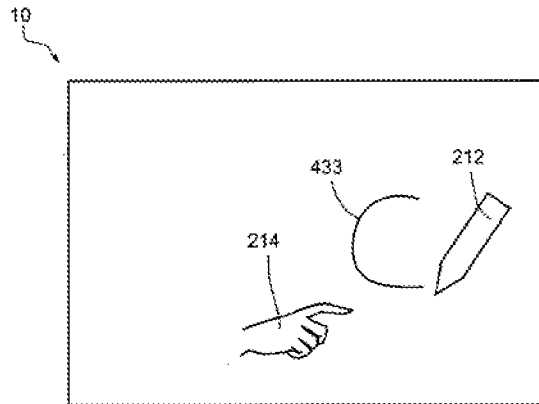


Fig. 8a

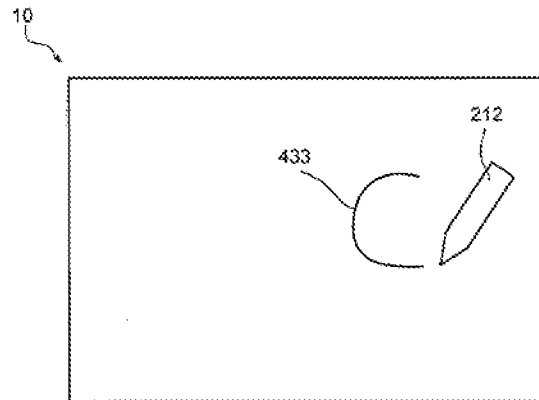


Fig. 8b

FIG. 8A illustrates a copy command combination gesture including a stylus 212 and a finger 214 and FIG. 8B illustrates a cut command gesture with a single user interaction, e.g. a stylus 212. In both FIG. 8A and 8B the stylus forms the same gesture, e.g. a 'C' shaped tracking curve 433. The command for copy and cut is distinguished based on input from the finger 214. Recognition of the presence of the finger touch or hovering shown in FIG. 8A indicates a copy command while the absence of the finger touch such as is the case in FIG. 8B indicates that the gesture is a cut gesture. In some exemplary embodiments, the extent of the cut or copy gestures, e.g. how much is cut or copied, may depend on the extent of the gestures.

Perski Paragraph 100.

Perski's Figure 9 is reproduced below:

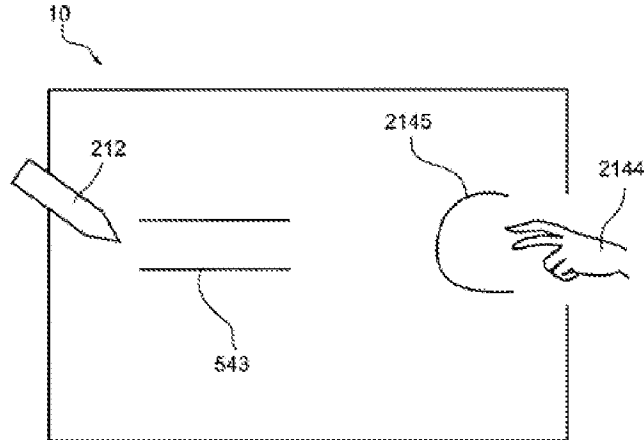


Fig. 9

[A] copy combined gesture may include two fingers **2144** tracking out a ‘C’ shape **2145** and subsequently remaining on the screen while stylus **212** underlines a portion of the contents of screen **10** to be copied, e.g. text **543** displayed on the screen. In another exemplary embodiment, a combined gesture for a bold command to bold letters includes performing a pre-defined gesture with a finger while and/or directly after writing letters with the stylus. Perski, paragraph 101.

Appellants argue:

Perski Fig. 9 shows a flat panel display with text 543 displayed on the screen 10, a stylus 212, and two fingers 2144 tracking out a ‘C’ shape 2145. The stylus could be viewed as one input source and the fingers could be viewed as another input source. But neither Fig. 9 nor Perski Para. 101 teach input source *identifiers* which are *linked* to user *interface components* (as opposed to user input, such as text 543 or the C shape 2145) as claimed.

Appeal Brief 11.

The Examiner finds it is “code that identifies an input as a finger or a stylus (see Abstract and Para. 47)” and therefore Perski “suggests such an [input source] identifier by detecting and assigning functions to gestures from a stylus and different functions to gestures from a finger.” Answer 7. The Examiner finds Perski discloses detecting input source identifiers from

two different inputs (finger and/or stylus) and linking them “with a respective user interface component in the memory” – a copy or cut text command. Final Action 4. Accordingly, we are not persuaded of Examiner’s error because the input source identifiers are mapped to a specific teaching in Perski.

- [The rejection] “misinterprets Kim’s single input source - a user’s finger- as being two input sources.”

Appellants further argue, “[t]hen the Final Office Action cites Kim ‘Figs. 17 and 18 where touch and pressure mode inputs generate two different functions such as previewing a sub-menu.’ But Kim Figs. 17 and 18 do not show different input sources. They both show the same input source: a user’s finger.” Appeal Brief 11.

The Examiner finds:

The Kim reference is not misinterpreting a single input source since in Kim, rather cited to show it is a known technique to have different types of input sources. [sic] Similarly in Perski, different input sources are generated by two different inputs (stylus and finger). It stands to reason since both references discuss similar devices from the view of the user and the view point of the device and each of the references receives different input signals that the references would be combined by one of ordinary skill.

Answer 8.

We do not find Appellants’ argument persuasive because Kim discloses that inputting user commands by pressure of a constant intensity or touch are two distinct input sources. Kim, paragraphs 3, 8 and 18, for example. Further, Appellants admit that Perski teaches two different input sources, i.e., the stylus and the finger. Appeal brief 11. The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. *See In re Kahn*, 441 F.3d 977,

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987-88 (Fed. Cir. 2006), *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991) and *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

• [The rejection] “misinterprets Kim as teaching ‘checking which device driver is configured in the device to supply input’ when Kim does not even mention device drivers, much less teach this particular claimed use of device drivers.”

Appellants argue”

Claim 1 also recites “wherein the process further comprises at least one of the following: (a) determining whether or not an input source produces touch areas of at least three different sizes which differ from one another in that each of the sizes except the smallest size is at least 30% larger than another of the sizes; (b) detecting an input source change by checking which device driver is configured in the device to supply input; or (c) calibrating touch area size categories at least in part by obtaining sample touch areas as calibration inputs”

and “[n]othing is cited against portion (a) or portion (c).”

Appeal Brief 12.

Appellants contend in rejecting portion (b), the Examiner “asserts that ‘driver is broadly reasonably interpreted to include device software communication instructions, see [Kim] Fig. 1, in conjunction with Para. 89-92 where individual touch detector and pressure detectors are used to decode and supply input for specific functions.” Appeal Brief 12 (citing Final Action 5–6). Appellants argue, “[h]owever, this does not justify the rejection” because “Kim does not even mention ‘driver’” and replacing “device driver” with “‘device software communication instructions’ as the rejection would do, Kim Fig. 1 contains nothing labeled as device software communication instructions” and “even if we pretend that Kim Fig. 1 teaches a device driver for ‘individual touch detector and pressure detectors

[that] are used to decode and supply input for specific functions,’ touch and pressure are not different input sources.” Appeal Brief 12.

Appellants state support for “(b) detecting an input source change by checking which device driver is configured in the device to supply input” is found in the Specification on page 48, lines 5–6 [“Some embodiments check 2522 which device driver 416 is configured in the device to supply input].” Appeal Brief 3. The Specification further discloses on page 48, lines 3–5, “[i]n some embodiments, detecting 2512 an input source change made 2510 by a user includes querying 2520 an operating system 130 to determine a currently enabled input source 402.” We do not find Appellants’ arguments persuasive because Kim discloses touch and pressure are different types of sources inputs requiring different features to accommodate each one. *See* Kim, paragraphs 30–34, for example. Further Appellants do not convince us that anything recited in the claims, as interpreted according to a broadest reasonable interpretation, patentably distinguishes the generic drivers of the claimed invention from the cited prior art. “As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

Accordingly, we sustain the Examiner’s obviousness rejection of claims 1, as well as claims 2, 3, 6 and 21 not separately argued. *See* Appeal Brief 13–14, 21.

Group II claims 4 and 9

Appellants argue the Examiner’s reliance upon Abdo to disclose claim 4’s limitation pertaining to identifying at least 3 touch areas with size

differentials is erroneous because Abdo's Figure 19 discloses pressure mapping and not touch areas. Appeal Brief 13. We find Appellants' arguments persuasive. We disagree with the Examiner's findings that Kim's disclosure of "multiple pressure thresholds (see Para. 88)-" in combination with Abdo's disclosure of a pressure map in Figure 19 teaches the touch areas' size differentials, recited in dependent claim 4. Final Action 13–14. We reverse the Examiner's obviousness rejection of claim 4. We also reverse the Examiner's obviousness rejection of claim 9 for the same reasons. The inclusion of Robb fails to address the noted deficiency of Abdo. *See* Final Action 23. We do not agree with the Examiner's findings that routine optimization would render the claimed range obvious because (1) the combination of Perski, Kinoshita, and Abdo does not disclose 3 areas of different sizes that differ from one another by at least 20% with the exception of the smallest size and (2) in order to optimize the size ranges, as the Examiner proposes, the elements need to be disclosed in the cited prior art to be optimized. *See* Final Rejection 21–23.

Group III claims 7, 11–13 and 22

• [The rejection] "chops 'with at least one touch area size category in the device' out of the associating step and asserts that associating happens in isolation."

Appellants contend:

[T]he rejection does finally recognize that Perski fails to teach the claimed associating step of "associating each of the at least two user interface components with at least one touch area size category in the device." The rejection then cites Kinoshita Para. 103 as "using a minimum contact area size to determine if finger or pen." But at most this maps contact area size to *input sources*, not to *touch area size categories*.

Kinoshita's Figure 2 is reproduced below:

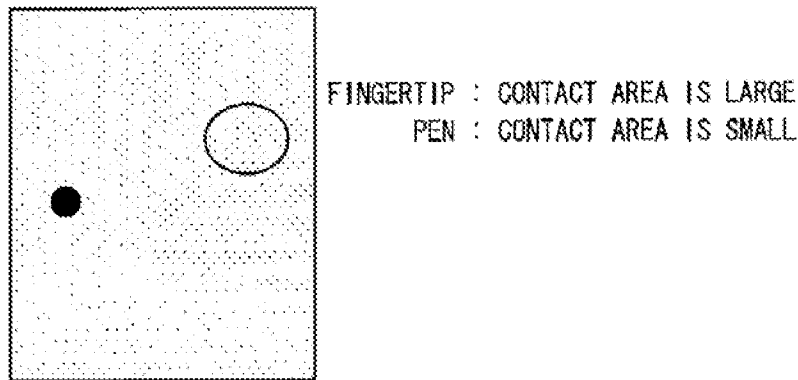


FIG. 2 is a diagram for explaining an input-means determining method in the case in which a panel of a surface elastic type is used as a touch panel. It is determined whether an input is a pen input (a main input) or an input by a finger (a sub-input). Kinoshita, paragraph 103.

We do not find Appellants' argument persuasive of Examiner's error because "Appellant acknowledges that user interface components are known. Something in Perski displays the user input, and that something would likely involve some kind of user interface component, e.g., a window." Reply Brief 5. Kinoshita discloses in paragraph 103,

The input-means determining unit 8 discriminates, when a contact area on the touch panel 5 is smaller than a predetermined value, that the input is the main input, i.e., the input by a pen and discriminates, when a contact area on the touch panel 5 is equal to or larger than the predetermined value, that the input is the sub-input, i.e., the input by a finger."

The Examiner finds Kinoshita discloses two touch area size categories and not merely two input sources. *See* Final Action 17. We agree with the Examiner's findings that Perski in combination with Kinoshita discloses the claimed touch area size category.

- [The rejection] “misinterprets Kinoshita’s touch area distinction, which merely distinguishes between a pen and a finger, as also teaching an association of touch area size categories with user interface components.”

We do not find Appellants’ arguments persuasive because Kinoshita teaches touch area size categories and given the broad definition of user interface components, Kinoshita also discloses associating the touch area size categories with user interface components either alone or in combination with Perski. *See* Specification, paragraph 5; Reply Brief 5 and Kinoshita, paragraph 103.

- [The rejection] “misinterprets Kim’s touch and pressure as different touch area size categories.”

Appellants argue, “The Final Office Action also cites Kim ‘Figs. 17 and 18 where touch and pressure mode inputs generate two different functions such as previewing a sub-menu.’” Appeal Brief 16. Appellants argue that Kim’s Figures 17 and 18 “show touches, not touch area size categories” because the figures “show the same user finger as the input source.” Appeal Brief 16. We do not find Appellants’ arguments persuasive because the Examiner relied upon Kim to disclose types of interface components and not touch area size categories comparisons. *See* Final Action 18–19. Subsequently, we sustain the Examiner’s obviousness rejection of claim 7¹, as well as, dependent claims 11–13 and 22 not separately argued. Appeal Brief 18, 21.

¹ The Examiner should also consider whether claim 7 encompasses non-statutory transitory media such as signals sent over optical or electronic communication links. *See In re Nuijten*, 500 F.3d 1346, 1357 (Fed. Cir.

Appellants contend in rejecting claim 10, the Examiner “asserts that ‘driver is broadly reasonably interpreted to include device software communication instructions, see [Kim] Fig. 1, in conjunction with Para. 89-92 where individual touch detector and pressure detectors are used to decode and supply input for specific functions.’” Appeal Brief 17 (citing Final Action 5–6). Appellants argue, “[h]owever, this does not justify the rejection” because “Kim does not even mention ‘driver’” and replacing “‘device driver’” with “‘device software communication instructions’ as the rejection would do, Kim Fig. 1 contains nothing labeled as device software communication instructions.” Appeal Brief 17. Appellants further contend:

The Examiner appears to think that an “input source change” is a change in the input. That is not correct. An “input source change” is not a change in the input itself such as the pressure level increases or decreases that are discussed in Kim Para. 89-92, but is rather a change in the *source* of the input, e.g., changing from an adult’s finger to a child’s finger or from a finger to a stylus, for example. Thus, Kim Fig. 1 does not teach detecting an “input source change” as one of skill would understand the present claims. For at least these reasons, the rejection of claim 10 should be reversed.

Appeal Brief 17–18.

Appellants state support for “(b) detecting an input source change by checking which device driver is configured in the device to supply input” is found in the Specification on page 48, lines 5–6 [“Some embodiments check 2522 which device driver 416 is configured in the device to supply input].”

2007); *see also* MPEP § 2106(1) (9th ed., Rev. 11 Mar. 2014) and *Ex parte Mewherter*, 107 USPQ2d 1857, 1859 (PTAB 2013) (precedential opinion).

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Appeal Brief 3. The Specification further discloses on page 48, lines 3–5, “[i]n some embodiments, detecting 2512 an input source change made 2510 by a user includes querying 2520 an operating system 130 to determine a currently enabled input source 402.” We do not find Appellants’ arguments persuasive because Kim discloses that touch and pressure are different types of sources inputs requiring different features to accommodate each one. *See* Kim, paragraphs 30–34, for example. Further, it is evident that there is nothing in the Specification nor is there anything recited in the claims that patentably distinguishes the generic drivers of the claimed invention from the cited prior art. “As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). We sustain the Examiner’s obviousness rejection of claim 10.

Group V claims 14–20

- [The rejection] “misinterprets a finger and a stylus as components of a user interface instead of recognizing that they are examples of input sources.”

Appellants contend:

Independent claim 14 recites in part “a touch-sensitive display screen displaying a user interface.” At page 9, the 2/26/2016 Final Office Action cites Perski “Fig. 8a detecting a finger or stylus from a user.” But a finger and a stylus are examples of *input sources*; they are not *components of a user interface*.

Appeal Brief 18.

We do not find Appellants’ argument persuasive of Examiner’s error because “Appellant acknowledges that user interface components are known. Something in Perski displays the user input, and that something

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would likely involve some kind of user interface component, e.g., a window.” Reply Brief 5.

- [The rejection] “link[s] two input sources with one another - which is not in the claim – with the actually claimed linking of each input source identifier with a respective user interface component.”

Appellants contend:

Claim 14 also recites “linking each of the at least two input source identifiers with a respective user interface component.” At page 9, the Final Office Action cites Perski “Figs. 8a-9 disclosing concept of identifying stylus input or finger contact input to perform commands together in Para. 101.” The Examiner confused linking two input sources with one another something not in the claim - with the actually claimed linking of each input source identifier with a respective user interface component.

Appeal Brief 18.

We do not find Appellants’ argument persuasive of Examiner’s error because “Appellant acknowledges that user interface components are known. Something in Perski displays the user input, and that something would likely involve some kind of user interface component, e.g., a window.” Reply Brief 5.

- [The rejection] “misinterprets ‘input source change’ to mean a change in the input itself, rather than a change in the *source* of the input.”

Appellants contend:

Claim 14 also recites “detecting an input source change from a first input source identifier linked with a first user interface component to a second input source identifier linked with a second user interface component at least in part by checking which device driver is configured in the device to supply input.” The rejection of this language tracks the rejection of claim 10, and the analysis above applies here in claim 14 as well.

Appeal Brief 18.

Appellants state support for “(b) detecting an input source change by checking which device driver is configured in the device to supply input” is found in the Specification on page 48, lines 5–6 [“Some embodiments check 2522 which device driver 416 is configured in the device to supply input”]. Appeal Brief 3. The Specification further discloses on page 48, lines 3–5, “In some embodiments, detecting 2512 an input source change made 2510 by a user includes querying 2520 an operating system 130 to determine a currently enabled input source 402.” We do not find Appellants’ arguments persuasive because Kim discloses that touch and pressure are different types of sources inputs requiring different features to accommodate each one. *See* Kim, paragraphs 30–34, for example. Further, it is evident that there is nothing in the Specification nor is there anything recited in the claims that patentably distinguishes the generic drivers of the claimed invention from the cited prior art. “As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

- [The rejection] “confuses changes in pressure level from a finger with changes between a finger and another input source.”

Appellants contend:

Against the severed part of the claim element, the Examiner cites Kim “Figs. 17 and 18 where pressure determines displaying a submenu in a pressure mode, and no pressure in a touch mode is another function in Para. 88-92.” But Kim Figs. 17 and 18 involve different pressure levels from the same input source: a user’s finger. They do not teach adapting a user interface in response to a change in input sources.

Appeal Brief 19.

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We do not find Appellants' arguments persuasive because Kim discloses that touch and pressure are different types of source inputs requiring different features to accommodate each one. *See* Kim, paragraphs 30–34, for example. Accordingly, we sustain the Examiner's obviousness rejection of independent claim 14, as well as, dependent claims 15–20 not separately argued. Appeal Brief 20–21.

DECISION

The Examiner's obviousness rejections of claims 1–3, 6, 7 and 10–22 are affirmed.

The Examiner's obviousness rejections of claims 4 and 9 are reversed.

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). *See* 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED-IN-PART