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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte XIN FENG and PETER CARLSON RANE¹

Appeal 2018-006186
Application 14/819,825
Technology Center 2600

Before JON M. JURGOVAN, AMBER L. HAGY, and JOHN R. KENNY,
Administrative Patent Judges.

JURGOVAN, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant seeks review under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.²

¹ We use the word “Appellant” to refer to “applicant(s)” as defined in 37 C.F.R. § 1.42. According to Appellant, the real party in interest is Lenovo Singapore PTE. Ltd. Appeal Br. 2.

² Our Decision refers to the Specification (“Spec.”) filed August 6, 2015, the Final Office Action (“Final Act.”) mailed March 24, 2017, the Appeal Brief (“Appeal Br.”) filed June 24, 2017, the Examiner’s Answer (“Ans.”) mailed March 27, 2018, and the Reply Brief (“Reply Br.”) filed May 29, 2018.

CLAIMED SUBJECT MATTER

The claims are directed to a device that includes a haptic element that can assume different configurations to assist visually-impaired users, or those who wish to manipulate the device without providing their full attention. Spec. Abstract, 1. An example of the device is provided in Figure 3 of the Specification, shown below.

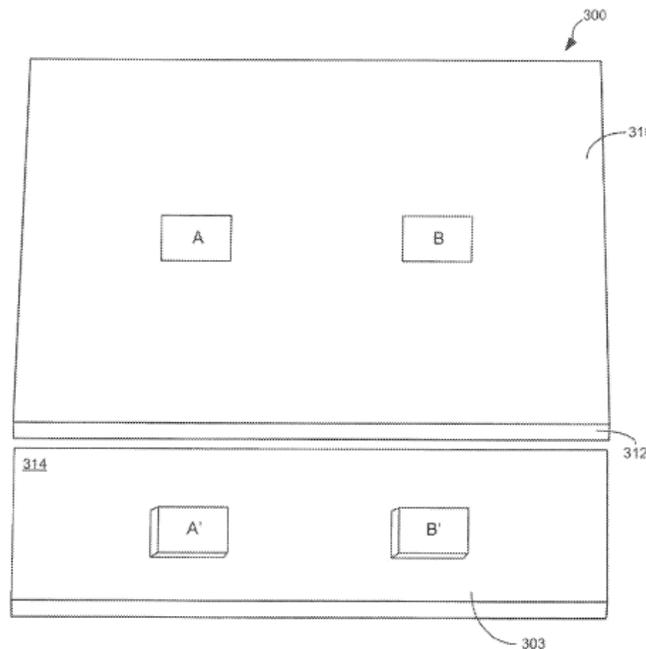


FIG. 3

In Figure 3 above, device 300 includes touch-enabled display area 310 and haptic layer 303. Spec. 10–11. Touch-enabled display area 310 includes selectable input elements A and B, and haptic layer 303 forms corresponding input elements A' and B', which can be manipulated to input the same commands. *Id.* at 12. Haptic layer 303 is actuatable to form flat areas (the claimed “non-discrete configuration”) or three-dimensional areas such as buttons A' and B' (the claimed “first discrete configuration”). *Id.* The device forms the three-dimensional buttons in response to determining the function that the device is to perform. *Id.* at 13.

A more specific example of the device is provided in Figure 7 of the Specification, shown below.

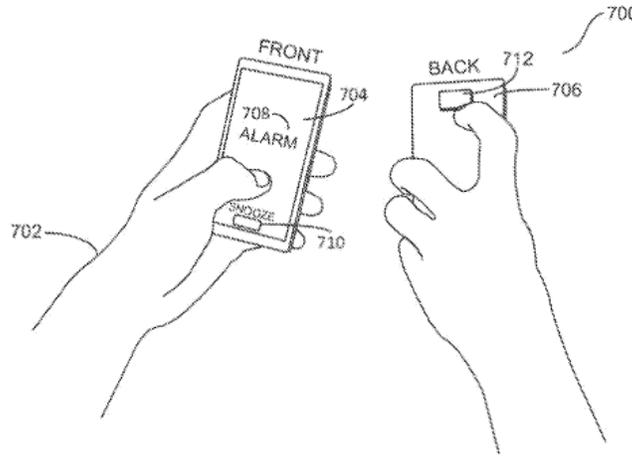


FIG. 7

In Figure 7 above, the device's front 704 presents an alarm 708 and a snooze selector element 710. Spec. 17. The device's back 706 includes a three-dimensional button 712, formed by actuation of a haptic layer, which can be depressed to select the snooze function. *Id.* The button configuration on the back 706 may be changed by appropriate actuation based on the function the device is to perform. For example, Figure 8 shows the haptic layer on the device back forming two buttons for a telephone function displayed on the device front, and Figure 9 shows the haptic layer forming three buttons for a media player function.

Claims 1, 10, 12, and 18 are independent. Claim 1, reproduced below, is representative of the claimed invention, and incorporates the mentioned features:

1. A device, comprising:
 - a processor;
 - a haptic component which changes between a non-discrete configuration and at least a first discrete configuration, the haptic component being accessible to the processor; and
 - storage accessible to the processor and bearing instructions executable by the processor to:
 - execute a function at the device;
 - in response to execution of the function, determine that the function is a function for which the haptic component is manipulable to provide input associated with the function; and
 - in response to the determination that the function is a function for which the haptic component is manipulable to provide input associated with the function, command the haptic component to assume the first discrete configuration.

Appeal Br. 25 (Claims Appendix). Independent claim 10 recites a computer readable storage media similar to claim 1. Claim 12 is directed to a computer readable storage medium for presenting a selector on a display, and actuating a haptic structure which can be depressed to perform the same command as the selector. Claim 18 is a method similar to claim 12.

REJECTIONS³

I. Claims 1–5, 10–14, 16, 18, and 20 stand rejected under 35 U.S.C. § 103 based on Panotopoulos (US 2006/0238510 A1, published October 26, 2006) and Pratt (US 2012/0249474 A1, published October 4, 2012). Final Act. 9–12.

³ The rejections for non-statutory double patenting and for indefiniteness under 35 U.S.C. § 112(b) were withdrawn by the Examiner. *See* Ans. 3.

II. Claims 6 and 15 stand rejected under 35 U.S.C. § 103 based on Panotopoulos, Pratt, and Pala (US 2009/0244017 A1, published October 1, 2009). Final Act. 12–13.

III. Claims 7–9, 11, 12, 17, and 19 stand rejected under 35 U.S.C. § 103 based on Panotopoulos, Pratt, and Colley (US 2013/0082824 A1, published April 4, 2013). Final Act. 14–15.

OPINION

Obviousness

A patent claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) where present, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

At the outset, we note that merely quoting or underlining claim language and asserting it is different from prior art references is insufficient to constitute an argument. See 37 C.F.R. § 41.37(c)(1)(iv) (2013) (“The arguments shall explain *why* the examiner erred as to each ground of rejection contested by appellant.” (Emphasis added)). Furthermore, “[i]t is not the function of [the Board] to examine the claims in greater detail than

argued by an appellant, looking for [patentable] distinctions over the prior art.” *In re Baxter Travenol Labs.*, 952 F.2d 388, 391 (Fed. Cir. 1991).

Accordingly, in the following analysis, we only address Appellant’s contentions that are articulated with sufficient particularity and supported by sufficient explanation as to constitute cognizable allegations of specific reversible Examiner error and thereby amount to actual arguments.

Arguments that Appellant did not make in the Briefs are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

*I. Obviousness Rejections of Claims 1–5, 10–14, 16, 18, and 20
Claims 1 and 10*

Appellant argues for patentability of independent claims 1 and 10 together as one group. Appeal Br. 6–8. Accordingly, we select claim 1 as representative of the group and specifically address only this claim in our analysis. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner finds that Panotopoulos (which Appellant refers to as “Pano”) discloses a haptic component assuming a discrete configuration in response to a determination that a function executed by a device is a function for which the haptic component is manipulable to provide input associated with the function, as recited in claim 1. *See* Final Act. 9–10 (citing Panotopoulos ¶¶ 66–82, Figs. 2A–3C [200], 7 [710], 8B, 8C, 9 [905], [925]). Appellant disagrees with the Examiner, arguing that Panotopoulos does not disclose a determination that that function is one that receives manipulable input in response to execution of a function, or that its microchambers, which emulate hard keys of a keyboard, assume certain shapes in response this determination. Appeal Br. 7; Reply Br. 2–3.

Some discussion of Panotopoulos's disclosure will be helpful in understanding the issues presented. As the Examiner explains, function 905 in Panotopoulos's Figure 9 selects either a first emulated keypad (e.g. a telephone keypad) or a second emulated keyboard (e.g., a PDA). Final Act. 10; Panotopoulos ¶¶ 78–81. Panotopoulos explicitly mentions the second emulated keyboard (of a PDA) may have raised areas (i.e., discrete configurations) formed by actuation of microchambers, as shown below in Panotopoulos's Figures 2C and 2D. See Panotopoulos ¶ 81.

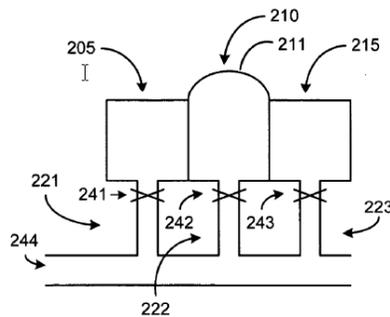


FIG. 2C

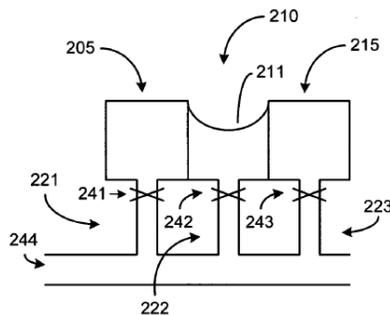


FIG. 2D

As shown in Figure 2C, valve 242 allows airflow into microchamber 210 from manifold 222, whereas valves 241, 243 prevent air flow into microchambers 205, 215. In Figure 2D, valve 242 allows air to escape from microchamber 210 into manifold 222. Depending on whether they are inflated or deflated, one or more microchambers may be used to constitute a

raised or recessed emulated hard key. Panotopoulos ¶ 40. An example of a keyboard emulated with Panotopoulos's microchambers is shown below in Figures 3A and 3B.

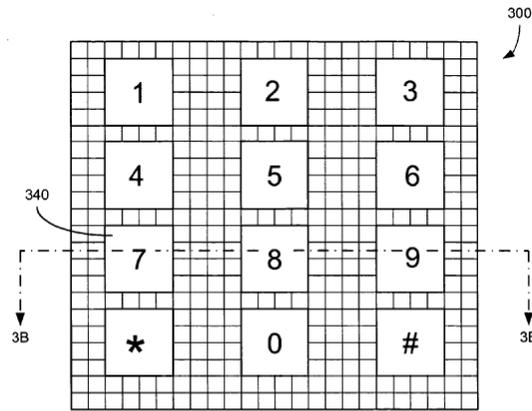


FIG. 3A

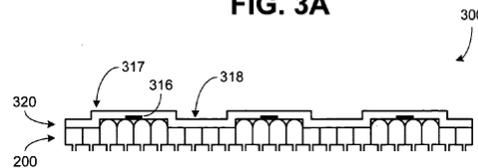


FIG. 3B

In Figures 3A and 3B, each of the 12 keys of a conventional telephone keypad is emulated by raising the top surfaces of each of 16 adjacent microchambers to form a raised, square keypad corresponding to each of the telephone keys. Panotopoulos ¶ 50. Similarly, in Figures 4A and 4B, Panotopoulos shows that its keyboard can be reconfigured with controls to emulate an MP3 player. The keyboard can thus be reconfigured according to device function.

With this background on Panotopoulos, we return to Appellant's argument. Specifically, Appellant argues that Panotopoulos's Figure 9 does not disclose any determination that a function requires key manipulation in response to execution of the function, or commanding a haptic component to assume a discrete configuration in response to the determination, as claimed.

Appeal Br. 6–8; Reply Br. 2–3. Selection of a particular keyboard in Panotopoulos, however, is inseparable from executing the function associated with the selected keyboard and determining that the selected function requires manipulable input. In other words, when a user selects either a telephone keyboard or a PDA keyboard in Pantopolous’s Figure 9, step 905, the processor executes the corresponding telephone or PDA function, determines that the telephone or PDA function requires a particular emulated keyboard configuration to receive manipulable input, and commands the valves of the microchamber array to form emulated keys for the selected keyboard layout. One of ordinary skill in the art would have understood from Panotopoulos that these functions could be performed sequentially so that the execution of the telephone or PDA function occurs first, in response to which the determination that the function requires manipulable emulated keys occurs second, in response to which the command controls the microchamber array to form the manipulable keys. This would have been the logical way for one of ordinary skill in the art to program Panotopoulos’s device.

Accordingly, Appellant’s argument does not persuade us that the Examiner errs in finding that Panotopoulos teaches or suggests the argued features of these claims.

Claims 12 and 18

As claims 12 and 18 recite similar limitations, we group them together in our analysis. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner finds that Panotopoulos discloses a selector selectable to provide a command to a device and, contemporaneously with presenting the selector on the display, actuating a portion of the haptic structure by

changing height of the appropriate buttons that are selectable to provide the same command to the device. Final Act. 3 (citing Panotopoulos ¶¶ 79–80, Fig. 9). Appellant argues that the portions of Panotopoulos that are relied upon by the Examiner fail to disclose a selector on a display and a haptic structure in the shape of a button, where both the selector and button are presented contemporaneously and are selectable to provide the same command to a device, as claimed. Appeal Br. 9–12, 19–20; Reply Br. 4–8.

We agree with the Examiner, however, that Panotopoulos discloses the argued claim features. Final Act. 9–11; Ans. 4–6. Panotopoulos discloses that an emulated keyboard has raised numerical keys with displayed numerals. Panotopoulos Figs. 3A, 3B, ¶ 80. Depressing the emulated key is indistinguishable from pressing the displayed numeral on numeric display 316, and results in a command to input that numeral into a computer. *See* Panotopoulos Figs. 3A, 3B, ¶¶ 1, 51. Although Appellant’s argument seems to assume that the claimed selector and button are separate from one another and are each independently operable to generate the same command, the claims recite no such language, and the Examiner is obligated to apply the broadest reasonable interpretation during examination. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1369 (Fed. Cir. 2004).

Accordingly, under broadest reasonable interpretation, we are not persuaded the Examiner errs for the reasons Appellant argues.

Claim 4

Dependent claim 4 recites instructions executable by the processor to “execute a second command different from the first command in response to the first discrete button being touched but not depressed for a threshold time.” Appeal Br. 25–28 (Claims Appendix). The Examiner finds this

feature disclosed by the combination of Panotopoulos and Pratt. Final Act. 11 (citing Pratt Fig. 4 and Panotopoulos ¶¶ 43, 54, 56). Appellant argues the claimed feature is not disclosed by the combination of Panotopoulos and Pratt. Appeal Br. 12–13; Reply Br. 8–11.

Specifically, Appellant argues that Pratt’s threshold’s P and T pertain to distance, not time, and that, while Pratt discloses its device may detect the finger making contact with a touch surface at threshold T, no threshold time appears to be disclosed. Appeal Br. 12. Appellant further argues that the cited paragraphs of Panatopoulos likewise fail to disclose anything that can be perceived as a threshold time of finger application. Appeal Br. 12–13.

We agree with Appellant’s argument that the combination of Pratt and Panotopoulos do not disclose a button, which generates a first command when depressed, and a second command different from the first command when touched, but not depressed, for a threshold time, as claimed. Pratt’s threshold T pertains to the instant in time at which a finger touches a surface to trigger generation of a haptic effect. Pratt ¶ 44. The cited paragraphs of Panotopoulos disclose that manipulation of an emulated key generates two commands, one triggering the input represented by the key and the other for triggering a haptic effect, but both appear to be caused by depressing the key and not by touching it for a threshold time. Panotopoulos ¶¶ 43, 54, 56. The recitation of “the first discrete button being touched but not depressed for a threshold time” requires that the button is touched with less pressure than would be required to depress it, and that it be touched for a threshold time duration. *See* Spec. 15. The cited parts of the references do not mention touching a key for a duration of time generates a different command than depressing the key. Accordingly, we do not sustain the rejection of claim 4.

Claim 5

Claim 5 recites “wherein the second command is to provide audible output at the device, the audible output pertaining [to] the first command.” Appeal Br. 26 (Claims Appendix). The Examiner finds this feature disclosed by Pratt. Final Act. 11–12 (citing Pratt ¶ 18); Ans. 6 (citing Panotopoulos ¶ 57 and Pratt ¶ 18). Appellant contends that the cited paragraph of Pratt merely discloses audio drivers, and that the cited paragraph of Panotopoulos discloses audio feedback to confirm key depression, and does not mention audio feedback being provided if Panotopoulos’s key were touched but not depressed. Appeal Br. 13–14, Reply Br. 11.

We agree with Appellant’s argument that Pratt and Panotopoulos do not mention touching a button provides audio output pertaining to the command that would be generated by depressing the button. Pratt’s paragraph 18 merely mentions audio drivers, and Panotopoulos’s paragraph 57 discusses audio feedback when finger pressure is detected. This is not sufficient, however, to disclose that touching a button provides audio output pertaining to the command generated by depressing the button, as claimed. Accordingly, we do not sustain the rejection of claim 5.

Claim 14

Claim 14 recites “wherein the haptic structure is disposed on a first side of a device, wherein the display is disposed on a second side of the device opposite the first side of the device, and wherein the at least portion of the haptic structure is actuated to assume the shape of the button at least partially at a location on the haptic structure that corresponds transversely to a location on the display that presents the selector.” Appeal Br. 28–29

(Claims Appendix). The Examiner finds that Panotopoulos shows display and haptic structure disposed on different sides, and the shape of buttons. Final Act. 4 (citing Panotopoulos Fig. 1, ¶ 49); Ans. 6–7 (citing Panotopoulos Fig. 3B, ¶¶ 53–54 and Pratt Figs. 3(a)–3(b), ¶¶ 36–37). Appellant argues that Pratt merely discloses a display that presents content, icons, and softkeys, and that Panotopoulos’s Figure 1 does not show the display 105 and reconfigurable keyboard 110 touching each other, let alone on opposite sides of a device. App. Br. 15; Reply Br. 12–13. Appellant further argues that Panotopoulos fails to disclose a haptic structure actuated to assume the shape of a button at least partially at a location of the haptic structure that corresponds transversely to a location on a display on an opposite side of the device at which a selector is presented, as claimed. *Id.*

As shown in Panotopoulos’s Figure 3B, the flexible display screen 320 is disposed on one side of the device, and the microchamber array 200 actuating the microchambers to form the raised surface 317 (the “haptic structure”) is disposed on the opposite side of keypad 300. Panotopoulos ¶ 51. The raised surface 317 (corresponding to the claimed “button”) is at a location on the keypad that corresponds transversely to the numeric display 316 (corresponding to the claimed “selector” which, for example, displays the numeral “7”). *See* Panotopoulos Fig. 3B, ¶ 51. Although Appellant argues Panotopoulos’s flexible display screen 320 and microchamber array 200 are on the same side of a device, the claims recite no language that precludes the Examiner’s broad but reasonable interpretation of the two components as being on opposite sides of keypad 300. *See Am. Acad. of Sci. Tech. Ctr., supra*. Thus, we agree with the Examiner that Panotopoulos discloses the argued features of claim 14.

Claim 11

Claim 11 is similar in scope to claim 4, previously discussed, and Appellant presents the same arguments for patentability. For the reasons explained with respect to claim 4, we do not sustain the rejection of claim 11.

Claims 2, 3, 13, 16 and 20

No separate arguments are presented for claims 2, 3, 13, 16 and 20, which fall for the reasons stated with respect to the independent claims from which they depend. *See* 37 C.F.R. § 41.37(c)(1)(iv).

II. Obviousness Rejections of Claims 6 and 15

Claim 6 recites “wherein the second command is to provide audible output at the device, and wherein the audible output comprises a description of the first command.” Appeal Br. 26 (Claims Appendix). The Examiner finds this limitation is disclosed by Pala. Final Act. 13 (citing Pala ¶ 56). Specifically, Pala discloses “[t]he feedback module 126 may include an audio module (not shown) that provides audio feedback, such as audio of the command of the control icon, to the driver when the feedback module 126 receives the processed feedback signal.” Pala ¶ 56. Appellant argues the meaning of this phrase is not clear, and the word “description” (or a synonym thereof) does not appear in the cited paragraph of Pala, and the rejection has not explained how this disclosure might be construed as a “description.” Appeal Br. 16; Reply Br. 13–14.

We find that Pala’s phrase “audio of the command of the control icon” is sufficient to suggest that the audio indicates the title or underlying function of the command that is associated with the control icon. Pala ¶ 56. The Specification explains that “the audible output may describe the touched

button itself (e.g. its appearance and/or shape), indicate a title for the touched button, describe the underlying function to be executed should the touched button be depressed, etc.” Spec. 15. Pala’s “audio feedback, such as audio of the command of the control icon” is enough to suggest to a person of ordinary skill in the art at the time of the invention that the audio is the title of the command or description of the underlying function.

Accordingly, we sustain the rejection of claim 6.⁴

Claim 15 is similar to claim 14, discussed previously. For the same reasons provided for claim 14, we agree with the Examiner that Panotopoulos discloses the features recited in claim 15.

III. Obviousness Rejections of Claims 7–9, 11, 12, 17, and 19

Appellant argues Colley fails to disclose the features recited in claim 12. App. Br. 19–20; Reply Br. 16. We addressed claim 12 in the first rejection discussed, and concluded that the combination of Panotopoulos and Pratt were sufficient to disclose all limitations of claim 12. The addition of Colley to the combination cited in this rejection does not change our previous analysis concerning claim 12. Accordingly, we do not reach Appellant’s argument concerning Colley.

No separate arguments are presented for claims 7–9, 11, 17, and 19, which fall for the reasons stated with respect to the claims from which they depend. 37 C.F.R. § 41.37(c)(1)(iv).

IV. Motivation to Combine

The Examiner relies on Panotopoulos to disclose most of the features of the claims, but relies on Pratt to disclose a storage bearing instructions

⁴ The Examiner is advised to consider whether Colley also discloses the argued claim feature. See Colley ¶¶ 19, 119.

executable by the processor. Final Act. 10. As a reason to combine the references, the Examiner states “it would be obvious to the person of ordinary skills in the art at the time the invention was made to use the storage shown by Pratt et al. with the apparatus shown by Panotopoulos in order to improve efficiency of haptic effect generation with reduced latency for different types of user interaction events.” *Id.* The Examiner further finds that “use of a storage/memory accessible for a processor of Pratt et al. with device of Panotopoulos et al. is quite obvious since all elements are well known in the art and would not change in their respective functions and the proposed combination would have yield nothing more than predictable results to one of ordinary skill in the art.” Ans. 9. The Examiner’s reasons for adding Pala’s and Colley’s audio commands to the combination is “in order to enhance quality of a touch detection for a user in driving conditions.” Final Act. 13–14. The Examiner further finds that “all references show the analogous devices with similar functions which can be combined.” *Id.* at 4.

Appellant contends “the rejections do not demonstrate that their reasons for the alleged motivations to combine the references were evident in Appellant’s field of endeavor at the time of Appellant’s filing date rather than when the rejections themselves was made.” Appeal Br. 21–22. Pratt, however, states “the inventors recognized a need in the art for efficient haptic effect generation with reduced latency that compliment different types of user interaction events,” which is precisely one of the reasons the Examiner gives to combine Panotopoulos and Pratt. Final Act. 10; Pratt ¶ 6. In the context of driving, Pala describes a need for an “LCD device that should lead to accurate use even without having to see the LCD device,”

which is similar to the problem described in Appellant's Specification. Pala ¶ 5, Spec. 1. A person of ordinary skill in the art would have understood that audio feedback assists a user in not having to look when manipulating a control icon on a touch-sensitive display. Pala ¶¶ 56, 127, 133. Likewise, Colley discloses "announcement of a feature related to the user interface element selected (such as reciting the letter "G" if the "G" key is pressed)." Colley ¶ 19. As the Examiner notes, all of the references show analogous devices with similar functions such as keys and other control elements that provide tactile or haptic feedback. Final Act. 4. The similarity of the references would have prompted one of ordinary skill in the art to consider them in combination. *Id.* One of ordinary skill in the art also would have understood that Pratt's storage memory and Pala's and Colley's audio feedback as options that could be added to Panotopoulos. In other words, the cited combinations of references are merely the combination of known elements, with no change in their respective functions, according to known methods, yielding predictable results. Ans. 9; *KSR*, 550 U.S. at 416. Thus, contrary to Appellant's argument, the Examiner's stated reasons to combine are evident in the field of endeavor.

Appellant next relies on the *Nuvasive* case for the proposition that "the PTO must articulate a rational connection between the facts found and the holding it makes, which is not satisfied when the PTAB never articulated *why* the additional information of the secondary references would benefit a person having ordinary skill in the art ('PHOSITA') when implementing the primary reference or *how* the PHOSITA would use that information when implementing the primary references." Appeal Br. 22 (citing *In re Nuvasive*, 842 F.3d 1376 (Fed. Cir. 2016)). Panotopoulos's keyboard with variable

configuration, however, is described as useful for a computer. Panotopoulos ¶¶ 1, 31. As the Examiner recognizes, one of ordinary skill in the art would have understood that in addition to Panotopoulos's keyboard and processor (controller), a computer requires a storage or memory for program instructions and data. Final Act. 9–10; Ans. 9–10. Thus, the desirability of adding Pratt's memory (i.e., storage) to Panotopoulos's keyboard and controller would have been recognized by a person of ordinary skill in the art, who would have known how to combine together these fundamental components to construct a computer, whose keyboard configuration could be varied according to the selected function. Pratt recognizes the desirability of improving efficiency of haptic effect generation with reduced latency for different types of user interaction events. Pratt's mention of different types of user interaction events suggests using different functions through Panotopoulos's variable keyboard configuration. Pala recognizes that operating an input/output device without having to look at it when driving is desirable, and that audio feedback could be used for this purpose. Pala ¶ 5, 56. Colley also discloses the use of an input/output device with audio feedback. Colley ¶ 19. Thus, the Examiner adequately explains why the additional information of Pratt, Pala, and Colley would have benefitted a person having ordinary skill in the art, and how that information would have been used with Panotopoulos, consistent with *Nuvasive*. Final Act. 4, 9–10, 13–14; Ans. 8–10.

Appellant further argues that the capability to combine references is not enough to establish obviousness and that the Examiner is required to show that a person of ordinary skill in the art would have recognized the desirability of making the combination. App. Br. 22–24 (citing *Personal*

Web Technologies, LLC v. Apple, Inc., 848 F.3d 987 (Fed. Cir. 2017); *Belden Inc. v. Berk-Tec LLC*, 805 F.3d 1064 (Fed. Cir. 2015); *Rovalma, S.A. v. Bohler-Edelstahl GmbH & Co.*, 856 F.3d 1019 (Fed. Cir. 2017)); Reply Br. 16–18. For reasons already explained, we find the Examiner demonstrates that the person of ordinary skill in the art had the capability to combine the reference teachings, and would have recognized the desirability of combining them. In other words, the Examiner provides “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418.

CONCLUSION

We affirm the Examiner’s rejections of claims 1–3, 6–10, and 12–20 as obvious under 35 U.S.C. § 103, but reverse the rejections of claims 4, 5, and 11.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–5, 10–14, 16, 18, 20	103	Panotopoulos, Pratt	1–3, 10, 12–14, 16, 18, 20	4, 5, 11
6, 15	103	Panotopoulos, Pratt, Pala	6, 15	

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
7-9, 11, 12, 17, 19	103	Panotopoulos, Pratt, Colley	7-9, 12, 17, 19	11
Overall Outcome			1-3, 6-10, 12-20	4, 5, 11

TIME PERIOD FOR RESPONSE

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