

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ACER INC., ACER AMERICA CORPORATION,
ASUSTEK COMPUTER INC., ASUS COMPUTER INTERNATIONAL,
GOOGLE LLC, MICROSOFT CORPORATION, and
MICROSOFT MOBILE INC.

Petitioners,

v.

KONINKLIJKE PHILIPS N.V.,
Patent Owner.

Case IPR2017-00386
Patent RE44,913

PETITIONER GOOGLE LLC'S NOTICE OF APPEAL

Notice is hereby given, pursuant to 37 C.F.R. § 90.2(a), that Petitioner Google LLC (“Google”) hereby appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision entered September 26, 2018 (Paper 25) as it relates to claims of U.S. Patent No. RE44,913 (“the ’913 patent”), and any finding or determination supporting or relating to that decision, including the Decision on Institution of Inter Partes Review entered June 12, 2017 (Paper 8) and the Decision on Institution and Joinder in IPR2017-01766 entered January 16, 2018 (Paper 15). A copy of the Final Written Decision is attached hereto as Exhibit A.

In accordance with 37 C.F.R. § 90.2(a)(3)(ii), Patent Owner indicates that the issues on appeal include, but are not limited to, the Patent Trial and Appeal Board’s determinations that Petitioner failed to demonstrate by a preponderance of the evidence that claims 1 and 3-16 of the ’913 patent are unpatentable as obvious over Sakata, Japanese Unexamined Patent Application No. 2000-148366 (“Sakata II”), or as obvious over Sakata II and U.S. Patent No. 6,094,197 (“Buxton”).

Pursuant to 37 C.F.R. § 90.2(a), with this submission: (1) a copy of this Notice of Appeal is being filed electronically with the Patent Trial and Appeal Board in accordance with 37 C.F.R. § 42.6(b); (2) a paper copy of this Notice of Appeal, an electronic copy of this Notice of Appeal on the CM/ECF Document Filing System, and the docketing fee of \$500 are being simultaneously filed with

the Clerk's Office for the United States Court of Appeals for the Federal Circuit;
(3) the original of this Notice of Appeal is being filed by hand with the United States Patent and Trademark Office as provided in 37 C.F.R. § 104.2; and (4) a copy of this Notice of Appeal is being served on Patent Owner Koninklijke Philips N.V.

Dated: November 26, 2018

Respectfully submitted,

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CERTIFICATE OF FILING

The undersigned hereby certifies that, in addition to being electronically filed through PTAB E2E, the above-captioned *Petitioner Google LLC's Notice of Appeal* is being filed by hand with the Director on November 26, 2018, at the following address:

Director of the United States Patent and Trademark Office
c/o Office of the General Counsel
Madison Building East, 10B20
600 Dulany Street
Alexandria, VA 22314

The undersigned also hereby certifies that a true and correct paper copy of the above-captioned *Petitioner Google LLC's Notice of Appeal*, a true and correct electronic copy of the above-captioned *Petitioner Google LLC's Notice of Appeal*, and the docketing fee of \$500 are being filed by hand, CM/ECF, and Pay.gov, respectively, with the Clerk's Office of the United States Court of Appeals for the Federal Circuit on November 26, 2018.

Dated: November 26, 2018

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Case IPR2017-00386
Patent RE44,913

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CERTIFICATE OF SERVICE
(37 C.F.R. § 42.6(e))

The undersigned hereby certifies that the above-captioned *Petitioner Google LLC's Notice of Appeal* was served on November 26, 2018 by sending a copy by e-mail to the following attorneys of record for the Patent Owner:

Justin J. Oliver
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In addition, a courtesy copy was sent by e-mail to joliver@Venable.com and jmdorsky@Venable.com.

/Aaron Maurer/
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Reg. No. 44,911
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Google LLC

Date: November 26, 2018

EXHIBIT A

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ACER INC., ACER AMERICA CORPORATION,
ASUSTEK COMPUTER INC., ASUS COMPUTER INTERNATIONAL,
GOOGLE LLC, MICROSOFT CORPORATION, and
MICROSOFT MOBILE INC.,
Petitioner,

v.

KONINKLIJKE PHILIPS ELECTRONICS N.V.,
Patent Owner.

Case IPR2017-00386¹
Patent RE44,913

Before DAVID C. MCKONE, ROBERT J. WEINSCHENK, and
KAMRAN JIVANI, *Administrative Patent Judges*.

JIVANI, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

¹ Microsoft Corporation and Microsoft Mobile Inc. (collectively, “Microsoft”) filed a petition in IPR2017-01766, and Microsoft has been joined to the instant proceeding.

I. INTRODUCTION

Acer Inc., Acer America Corporation, ASUSTek Computer Inc., ASUS Computer International, and Google LLC requested an *inter partes* review of claims 1 and 3–16 (the “challenged claims”) of U.S. Patent No. RE44,913 (Ex. 1001, “the ’913 patent”). Paper 2 (“Petition” or “Pet.”). Patent Owner Koninklijke Philips Electronics N.V. filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). Upon consideration of the Petition and Preliminary Response, we instituted an *inter partes* review pursuant to 35 U.S.C. § 314 of the challenged claims. Paper 8 (“Decision on Institution” or “Dec. on Inst.”), 19.

After institution, Microsoft Corporation and Microsoft Mobile Inc. requested an *inter partes* review of the challenged claims and filed a motion for joinder to the instant proceeding. IPR2017-01766, Papers 2 and 3. Patent Owner, together with Microsoft Corporation and Microsoft Mobile Inc., filed a joint stipulation stating that Patent Owner did not oppose the requested joinder. IPR2017-01766, Paper 7, 3. We granted the motion and joined the Microsoft entities to the instant proceeding. IPR2017-01766, Paper 15, 10. Consequently, we refer herein to Acer Inc., Acer America Corporation, ASUSTek Computer Inc., ASUS Computer International, Google LLC, Microsoft Corporation, and Microsoft Mobile Inc. collectively as “Petitioner.”

Petitioner and Patent Owner requested an oral hearing, and a hearing was held on February 28, 2018. Paper 20. A transcript of the oral hearing has been entered into the record. Paper 23 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons discussed below, we determine that Petitioner has failed to show by a preponderance of the evidence that any of the challenged claims are unpatentable.

II. BACKGROUND

A. *Asserted Grounds of Unpatentability*

Petitioner advances the following grounds of unpatentability under 35 U.S.C. § 103(a) (Pet. 3–4):

1. Obviousness of claims 1 and 3–16 over Sakata II²; and
2. Obviousness of claims 1 and 3–16 over Sakata II and Buxton³.

B. *Overview of the '913 patent*

The '913 patent relates to entering characters on a handheld mobile device via a keypad. Ex. 1001, 1:18–21. Figure 1 of the '913 patent is reproduced below.

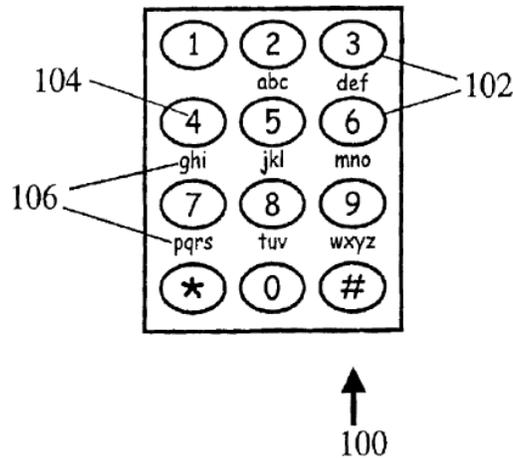


Fig. 1

² Sakata, Japanese Unexamined Patent Application No. 2000-148366 (“Sakata II”) (Ex. 1004).

³ Buxton, U.S. 6,094,197; iss. July 25, 2000 (“Buxton”) (Ex. 1006).

Figure 1 depicts a default display state of a keypad 100 with twelve keys 102, where each key is associated with a primary character 104 and a plurality of secondary characters 106. *Id.* at 3:25–28. The primary characters in Figure 1 are the numbers and symbols displayed on the keys of the keypad. *Id.* at 3:28–31. The secondary characters in Figure 1 are the letters displayed in groups below each key. *Id.* at 3:31–37.

In one embodiment, a user selects a primary character by initiating a “quick tapping” of the corresponding key for a pre-determined time period, for instance 0.2 seconds. *Id.* at 6:1–6. If the user’s tap is longer than the pre-determined time period, the keypad responds to the user’s tap by entering into a second state, wherein secondary characters associated with the selected key are made available. *Id.* at 4:4–6, 6:3–6. Figure 2 of the ’913 patent is reproduced below.

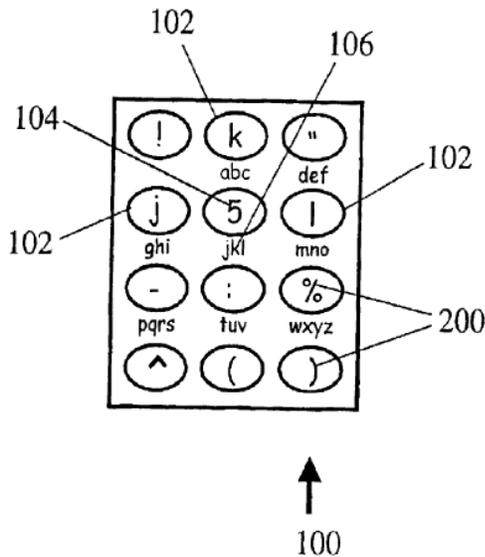


Fig. 2

Figure 2 depicts a second display state of the keypad after a first key selection by a user. *Id.* at 3:42–43. In this instance, the user has selected the

key associated with primary character ‘5’, causing the primary character ‘5’ to remain displayed on the selected key and causing the associated secondary characters ‘j’, ‘k’, and ‘l’ each to be displayed on an adjacent key. *Id.* at 3:44–52. The user may now select any of the displayed characters by tapping on the corresponding key, thereby providing “quick and accurate character input wherein secondary characters are available with only two key selections.” *Id.* at 3:63–65, 4:4–6. “Following a character input, the keypad of [Figure] 2 is returned to the default display state as shown in [Figure] 1.” *Id.* at 3:60–62.

C. Prosecution History

The ’913 patent is a reissue of U.S. Patent No. 6,885,318. Ex. 1001, 1. During prosecution of the reissue application and pursuant to a request for continued examination, Patent Owner submitted an information disclosure statement (IDS) disclosing Japanese Patent No. 4,019,512 to Sakata (the “Sakata ’512 patent”), which results from Japanese Unexamined Patent Application No. 2000–56912 (“Sakata I”). Ex. 1008, 522. The IDS does not identify the secondary reference, Buxton, and Buxton was not before the Examiner during prosecution. *Id.*; *see also* Pet. 15 n. 4. Moreover, the translation of Sakata II upon which Petitioner relies appears to be materially different from the translation of the Sakata ’512 patent before the Examiner. *Compare, e.g.*, Ex. 1004, ¶ 55 (Sakata II describing, “when a user wants to select and enter a special character or symbol that is not displayed on the soft keyboard 20, a user touches the key position of the group of similar characters and symbols with the touch pen 4 for longer than the threshold time.”) *with* Ex. 1008, 289 (Sakata ’512 patent stating, “[o]n the other hand, when changing the character classification displayed on a

soft keyboard 6, as for a user, the drag|drug menu 18 is displayed in the place which touched arbitrary characters and passed for a fixed time with the pointing device 3 like FIG. 19.”).

D. Illustrative Claim

Claims 1, 3, and 4 are independent. Claim 1 is illustrative of the claimed subject matter and is reproduced below.

1. A method for inputting a character to a device, the device including a keypad, the keypad including a plurality of keys, at least one of the keys has a primary character, a plurality of secondary characters and an associated display area, the keypad in a default state displaying the primary character associated with the at least one key in the associated display area, the method comprising acts of:

in the default state,

returning the primary character as an input character in response to selection of the at least one key for a period shorter than a predetermined time period;

switching to a second state after detecting a first key selection of the at least one key for a period longer than the predetermined time period;

in the second state:

displaying each of the secondary characters associated with the first selected key in a respective display area;

detecting a second key selection;

selecting for the input character the secondary character associated with the second key selection; and

returning the keypad to the default state.

E. Related District Court Proceedings

Petitioner identifies several actions for infringement of the '913 patent pending in the United States District Court for the District of Delaware.

Pet. 3.

F. Testimony

Petitioner supports its challenges with the declaration of Dr. Andrew Cockburn. Ex. 1002. Dr. Cockburn testified by deposition on August 29, 2017, and a transcript of his testimony has been entered into evidence.

Ex. 2006.

Patent Owner supports its challenges with a declaration of Dr. Adam Porter. Ex. 2005. Dr. Porter testified by deposition on November 29, 2017, and a transcript of his testimony has been entered into evidence.

Ex. 1029.

III. ANALYSIS

A. Principles of Law

Petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail on its challenges, Petitioner must demonstrate by a preponderance of the evidence that the challenged claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A claim is unpatentable under 35 U.S.C. § 103(a) 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 of the invention to a person having ordinary skill in the art. *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 skill in the art; and, if presented, (4) objective evidence of nonobviousness, i.e., secondary considerations such as commercial success, long felt but unsolved needs, and failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). The obviousness inquiry further requires an analysis of “whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (requiring “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”)).

B. Claim Construction

1. Applicable Standards and Principles of Law

In an *inter partes* review, claim terms are given their broadest reasonable interpretation in light of the specification in which they appear.⁴ *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016); 37 C.F.R. § 42.100(b). We presume that claim terms have their ordinary and customary meaning. *See TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1061–62 (Fed. Cir. 2016) (“Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history.” (citation omitted)); *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re*

⁴ We would construe the claim terms discussed below the same under *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

Paulsen, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In the absence of such a special definition or other consideration, “limitations are not to be read into the claims from the specification.” *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). Only those terms that are in controversy need to be construed and only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs. Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

The parties’ claim construction dispute at trial focuses on the meaning of the terms “primary character” and “secondary character,” as recited in each of independent claims 1, 3, and 4. *See, e.g.*, Tr. 32:23–25, 33:10–12 (counsel for Patent Owner arguing that its constructions were offered “in anticipation of potential new arguments” and that those arguments were in fact presented in Petitioner’s Reply). We interpret claim terms to the extent necessary to resolve the controversy before us. *See Nidec Motor Corp.*, 868 F.3d 1013 at 1017. Accordingly, we construe below the terms “primary character” and “secondary character” in order to resolve the parties’ claim construction dispute. We further determine that construction of additional terms is not necessary for our analysis and, therefore, do not construe any additional terms. *See id.*

2. *Primary character and secondary character*

Patent Owner asserts the term “primary character” should be construed as “a key character assigned to be selectable in a default state.” PO Resp. 21–23 (citing Ex. 2005 ¶¶ 30–38); Tr. 35:1–22. Patent Owner further asserts the term “secondary character” should be construed as “a key character assigned to be selectable only in a second state.” *Id.*

Petitioner contends that “the plain meaning is appropriate” for the terms “primary character” and “secondary character.” Reply 24. Petitioner elaborates, “their plain meaning . . . is that the primary characters are ones that appear in the default state, and the secondary characters are ones that appear in the secondary state.” Tr. 4:25–5:2.

In determining the broadest reasonable construction of a claim term, we begin with the language of the claim itself. *In re Power Integrations, Inc.*, 884 F.3d 1370, 1376 (Fed. Cir. 2018) (quoting *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 457 F.3d 1293, 1301 (Fed. Cir. 2006)) (“[C]laim construction must begin with the words of the claims themselves.”); *In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed. Cir. 2011) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc)) (“As with any claim construction analysis, we begin with the claim language.”). Here, claim 1 recites at least one key of a keypad having “a primary character” and “a plurality of secondary characters.” Ex. 1001, 6:50–51. The claim continues by defining a “default state” in which the “the primary character” is displayed and is returned “in response to selection of the . . . key.” *Id.* at 6:53–60. Thus, consistent with Patent Owner’s proposed construction, claim 1 defines a primary character as one that is selectable in the default state. *See* PO Resp. 21–23 (citing Ex. 2005 ¶¶ 30–38). With respect to “secondary characters,” claim 1 recites a “second state” wherein each of the secondary characters associated with a key is selectable. Ex. 1001, 6:61–7:2. Thus, consistent with Patent Owner’s proposed construction, claim 1 recites a secondary character as one that is selectable in the secondary state. *See* PO Resp. 21–23 (citing Ex. 2005 ¶¶ 30–38).

Central to the parties' claim construction dispute is a question of whether primary and secondary characters are limited to being selectable *only* in particular states. According to Patent Owner, the Specification describes primary characters as selectable in both the default and secondary states, whereas secondary characters "are only selectable after the keypad has entered the second state." PO. Resp. 22. In support of its position, Patent Owner asserts, "[a]s shown in Figures 1 and 2, primary character '5' is selectable in both the default state (via a selection of short duration), and the second state (via a selection of long duration). . . . However, secondary character 'j' is *only* selectable after the keypad has entered the second state." *Id.* (citing Ex. 1001, 3:25–62; 5:10–14; 5:54–66; 6:1–14; Figs. 1, 2).

Conversely, Petitioner contends that primary characters are those that are selectable in the default state, secondary characters are those that are selectable in the secondary state, and the Specification provides as an example the character '5' that is both a primary and secondary character. Reply 24. Petitioner directs our attention to Table 2 of '913 Patent, which is reproduced below.

TABLE 2

KEY	DISPLAY SECONDARY CHARACTER
1	!
2	k
3	"
4	j
5	5
6	1
7	£
8	\$
9	%
0	^
*	(
#)

Table 2 depicts “the characters displayed upon a first key selection corresponding to key 5 thereby providing a second keypad display state as shown in FIG. 2.” Ex. 1001, 3:34–36. At oral hearing, Petitioner’s counsel noted that the character ‘5’ is listed in the second column and asserted that, “Table 2 clearly labels all of those as secondary characters.” Tr. 5:23–24.

The Specification describes primary and secondary characters—as well as Table 2 upon which Petitioner relies—with respect to Figures 1 and 2, which are reproduced below again for ease of reference.

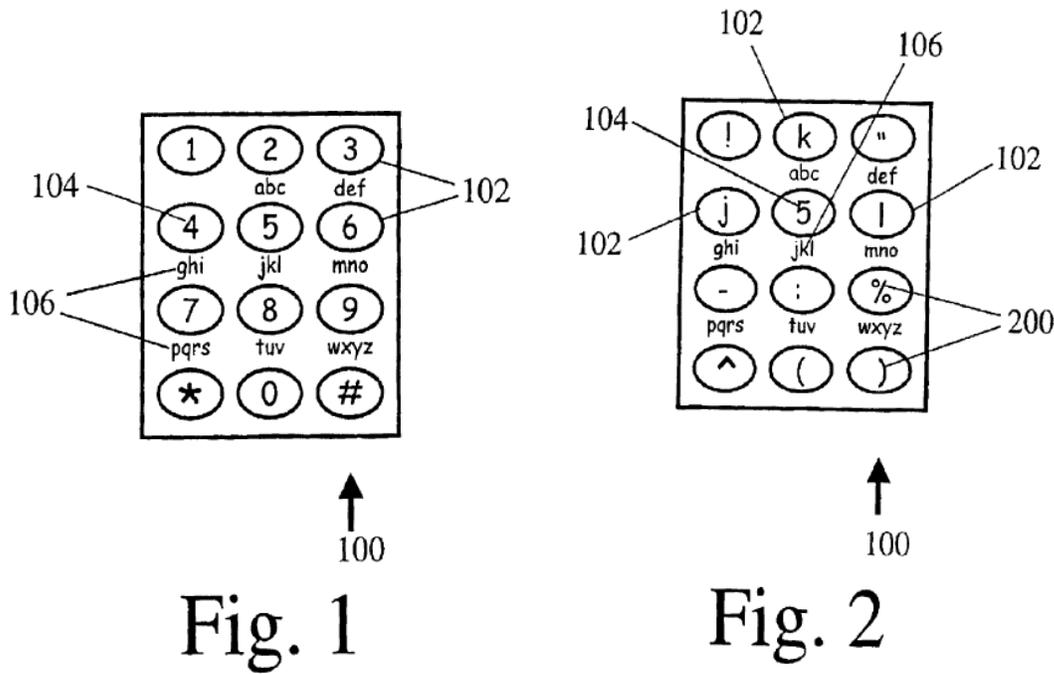


Figure 1 depicts a default display state of a keypad 100 with twelve keys 102, where each key is associated with a primary character 104 and a plurality of secondary characters 106. Ex. 1001, 3:25–28. The primary characters in Figure 1 are the numbers and symbols displayed on the keys of the keypad. *Id.* at 3:28–31. The secondary characters in Figure 1 are the letters displayed in groups below each key. *Id.* at 3:31–37. Significantly, although “[t]he secondary characters 106 associated with each key are

shown in groups adjacent the respective key,” the secondary characters are not shown as selectable in the default state (i.e., Figure 1). *Id.* at 3:31–33. Rather, consistent with Patent Owner’s argument, the secondary characters are only shown in Figure 1 as becoming selectable upon entering the second state, depicted in Figure 2. *Id.* at 3:41–52; 4:3–6 (“The dynamic keypad states illustrated in FIG. 1 and FIG. 2 provide a method of quick and accurate character input *wherein secondary characters are available with only two key selections.*”) (emphasis added).

Figure 2 depicts a second display state of the keypad after a first key selection by a user. *Id.* at 3:42–43. The Specification describes the second state shown in Figure 5 as depicting secondary characters ‘j’, ‘k’, and ‘l’ each to be displayed on keys adjacent to “the key associated with the primary character ‘5’.” *Id.* at 3:44–52. Contrary to Petitioner’s argument, this passage of the Specification does not describe the character ‘5’ as a secondary character. The character ‘5’ in Figure 2 bears the label 104, which the Specification designates “a primary character 104.” *Id.* at 3:27. The Specification continues, “the remaining keys have displayed upon them further characters 200 which are useful for text entry.” *Id.* at 3:52–57. Thus, the Specification discloses that the second state shown in Figure 2 depicts a primary character, secondary characters, and “further characters.”

Turning to Table 2, the Specification’s textual description of this table refers to its contents broadly as characters, and not merely as secondary characters. *See, e.g., id.* at 3:34–36 (Table 2 depicts “the *characters* displayed upon a first key selection corresponding to key 5 thereby providing a second keypad display state as shown in FIG. 2”) (emphasis added); *see also id.* at 3:42–44 (“the appropriate *characters* to be displayed

are retrieved from an appropriate stored KCT (e.g. Table 2) by the microprocessor”) (emphasis added). This usage of the broader term “characters” with regard to the second keypad display state is consistent with the Specification’s description of the second display state shown in Figure 2 as depicting a primary character, the associated secondary characters of that primary character, and further characters—all of which appear in the second column of Table 2 under the heading “DISPLAY SECONDARY CHARACTER.” It further stands in contrast to the immediately preceding description of Table 1, which identifies the *primary* and *secondary characters* associated with each key under the headings “PRIMARY CHARACTER” and “SECONDARY CHARACTER,” respectively. *Id.* at 5:10–14 (“Table 1 thereby provides primary and secondary characters to the microprocessor which, under the guidance of PRG instructs the touchscreen to display these characters in the appropriate locations to build up a default keypad display state corresponding to FIG. 1 and Table 1.”). Contrary to Petitioner’s argument regarding the character “5” as being both a primary character and a secondary character, Table 1 identifies that key character only as a “PRIMARY CHARACTER” and not a “SECONDARY CHARACTER.” *Id.* at 4:64.

In light of the foregoing disclosures, we are not persuaded by Petitioner’s argument that one of ordinary skill would understand the Table 2 column heading as defining the character “5” as a secondary character. Rather, we agree with Patent Owner that the Specification only discloses secondary characters that are selectable in the second state. Reading these terms in light of how they are described in the ’913 patent, we agree with and adopt Patent Owner’s construction of the term “primary

character” as “a key character assigned to be selectable in at least a default state” and the term “secondary character” as “a key character assigned to be selectable only in a second state.”⁵

C. Level of Ordinary Skill in the Art

Petitioner states that a person of ordinary skill in the art for the technology in the '913 patent “would have at least an undergraduate degree in computer science or computer engineering, or the equivalent” and “at least two years of experience in designing and/or implementing user interfaces, or equivalent academic experience.” Pet. 22 (citing Ex. 1002 ¶ 30). Patent Owner does not dispute Petitioner’s formulation, presents an analysis based on Petitioner’s formulation, and argues that, even under Petitioner’s formulation, Petitioner has failed to show the challenged claims are unpatentable. PO Resp. 20.

In view of the foregoing, we adopt Petitioner’s formulation of the level of ordinary skill in the art. Further, this level of ordinary skill is reflected by the prior art of record. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art itself can reflect the appropriate level of ordinary skill in the art).

D. Asserted Obviousness of Claims 1 and 3–16 over Sakata II

1. Overview of Sakata II

Sakata II is a certified translation of a Japanese published patent application directed at a device and method for inputting text using a

⁵ Because the Specification describes and depicts primary character “5” as selectable in the second state shown in Figure 2, we modify slightly Patent Owner’s proposed construction to recite explicitly “at least” and thus not arguably limited to only a default state.

software keyboard shown on a display screen. Ex. 1004, Abst. Figure 8 of Sakata II is reproduced below.

[FIG. 8]

(A) Display of soft keyboard



(B) Touch the key and release promptly



(B') The drag menu appeared after the key remained touched for a certain period of time



(C) Drag and release



(D)



Figure 8 depicts a display of a “soft keyboard” wherein a user may touch and immediately release a key using pen 4 to select the character displayed on the key. *Id.* at ¶¶ 52–54. If, however, the user touches the key for longer than a “preset threshold time, for example, longer than two seconds,” then drag menu 23 is displayed over the location of the key. *Id.* at ¶¶ 52, 53, 55. The user may then drag pen 4 over the menu 23 to select a character. *Id.* at ¶ 55. The newly-selected character is input and replaces the character previously-displayed on the key. *Id.* at ¶¶ 40, 41, 55, Figs. 5–8.

2. *Analysis of Independent Claim 1 and Dependent Claims 9–12*

The final limitation of claim 1 recites: “returning the keypad to the default state.” Ex. 1001, 7:3. The parties agree that Sakata II does not meet this limitation and dispute whether one of ordinary skill in the art would have modified Sakata II to return the keypad to a default state, as claimed. *Compare* Reply 3 (citing Ex. 1002 ¶ 143) *with* PO Resp. 16 (citing Ex. 2005 ¶¶ 68, 81–87).

Petitioner contends that “[t]he Sakata II invention performs an extra step” beyond the method of claim 1 because “[r]ather than return to the keyboard’s original ‘default’ state, it substitutes the just selected character key for the initial primary key.” Pet. 38. According to Petitioner, this character substitution is “[t]he only distinction between Sakata II and the ’913 patent.” Reply 3. Petitioner and Dr. Cockburn assert, “[o]mitting this extra step is an insubstantial change, and would have been obvious to the [person of ordinary skill in the art].” *Id.* at 38–39 (citing Ex. 1002 ¶¶ 144–48, 171–81). This is because one of ordinary skill in the art would find it obvious to try an implementation of Sakata II that omits the extra step in

light of “general notions of consistency” and a desire to improve efficiency. Pet. 40–43, 53; Reply 15–16.

Patent Owner responds that Sakata II does not teach the final limitation of claim 1 because it never returns to the claimed default state. PO Resp. 16 (“Following character selection from a drag menu, the keypad in Sakata II does not return to a default state. That is because, by purposeful design, Sakata II’s keypad does not have a default state.”). According to Patent Owner, “Sakata II is explicitly directed to an adaptive keyboard, in which, following the selection of a special character from a group associated with a particular key, the selected character is displayed on that key after the drag menu disappears, regardless of what was previously displayed on the key.” *Id.* Patent Owner asserts that this functionality is “designed for a particular need—increased speed and efficiency through personal customization”—and “having a default state as disclosed in the RE’913 patent would effectively destroy Sakata II’s intended purpose, as the keyboard would no longer be adaptable to the preferences of the user.” *Id.* at 31–32 (citing Ex. 2005 ¶¶ 85–89). Patent Owner continues that Sakata II teaches away from the modification Petitioner proposes and that “[i]n essence, Petitioner improperly attempts to use the RE’913 patent as a roadmap to modify Sakata II in a manner that was never contemplated or intended.” *Id.* at 33–34.

Having considered the complete trial record, we determine that Petitioner has failed to establish by a preponderance of the evidence that one of ordinary skill in the art would have modified Sakata II to return the keypad to a default state, as claimed. Applying our constructions of the terms “primary character” and “secondary character” set forth above, we

find Sakata II does not return to a “default state” because it does not return after selection of a secondary character to a state in which the primary character is displayed. *See* Ex. 1004 ¶¶ 40, 41, 55, Figs. 5–8. For instance, Figure 8 of Sakata II depicts the process when a user selects the dynamic key 22 bearing the character ‘mm’ for a longer than a preset threshold time.⁶ Ex. 1004 ¶¶ 52, 53. Upon reaching the threshold time, drag menu 23 is displayed over the location of the key (i.e., entering the second state). *Id.* at ¶ 55. If the user then selects, for instance, the character ‘mg’ (i.e., a secondary character) from the drag menu, Sakata II removes the drag menu and replaces the ‘mm’ character previously displayed on the key (i.e., the primary character) with the newly-selected ‘mg’ character (i.e., a secondary character). *See id.* at ¶¶ 51, 55, 56. Thus, rather than return to the claimed default state, in which secondary characters are not selectable, Sakata II moves to a third state wherein the selected key displays the most recently selected *secondary* character instead of the associated primary character.

This third state is explicitly designed to meet Sakata II’s stated goal of efficient, user specific character recognition. As Patent Owner correctly states, “Sakata II explains that there was a ‘heavy burden’ associated with requiring users to search for desired characters from a large list of characters.” PO Resp. 29 (citing Ex. 1004 ¶¶ 7–8; Ex. 2006, 151:16–152:5). Given this burden, Sakata II states that its objective “is to enable a selective input of the special characters and symbols described above by an easy operation.” Ex. 1004 ¶ 8. Sakata II attributes improved efficiency in part to its character substitution because “when the same special character or

⁶ For purposes of this illustration only, we assume, but do not find, that the character ‘mm’ meets the claimed “primary character.”

symbol is selected again, selective input can be carried out quickly without having to perform [the] dragging operation.” *Id.* at ¶ 51.

It is against this backdrop that we evaluate Petitioner’s argument that one of ordinary skill in the art would have found it obvious to try an implementation of Sakata II omitting its character substitution. In so doing, we are particularly mindful of the danger of relying on impermissible hindsight. *See, e.g., In re NTP, Inc.*, 654 F.3d 1279, 1299 (Fed. Cir. 2011) (cautioning against the use of hindsight).

Petitioner’s obvious-to-try rationale is predicated upon its assertion that one of ordinary skill would have been motivated to try the proposed modification for two reasons: (i) “general notions of consistency” and (ii) a desire to improve efficiency. Pet. 40–43, 53; Reply 15–16. With regard to consistency, Petitioner argues that an artisan of ordinary skill at the time would have been familiar with the “golden rule” of interface design, which according to Petitioner, states that “[t]he same information should be presented in the same location on all screens’ in order to ‘facilitate recognition’ of a particular design element.” Reply 8 (citing Ex. 1021, 132). Petitioner, relying on Dr. Cockburn, asserts that Sakata II’s dynamic keys “violate” this rule because “[i]f the set of characters displayed on the keyboard are changing, then at least some element of consistency is being compromised and a designer would be wary of that.” *Id.* at 10–11 (citing Ex. 2006, 241:14–23, 37:6–23). Conversely, Patent Owner, relying on its declarant Dr. Porter, states that an artisan of ordinary skill at the time would have “understood ‘consistency’ to refer to a wide variety of concepts, including consistent responses when pressing the same button, consistent

actions when carrying out a particular function, and consistent navigation methods across all features.” PO Resp. 62 (citing Ex. 2005 ¶¶ 161–163).

Having considered the complete trial record, we determine Petitioner and Dr. Cockburn do not explain persuasively why an ordinarily-skilled artisan would have considered Sakata II’s character substitution to be a “violation” of the “golden rule” of consistency. For instance, a reference cited by Dr. Cockburn for this golden rule states merely, “*Strive for consistency. . . . Consistent sequences of actions should be required in similar situations, identical terminology should be used in prompts, menus, and help screens, and consistent commands should be employed throughout.*” Ex 1020, 61. Petitioner and Dr. Cockburn fail to explain persuasively why Sakata II’s consistent operation of entering the selected character and thereafter displaying the newly-selected character on the associated key would violate this rule. *See* Reply 8–12, Ex. 1002 ¶¶ 54–61, 64, 65. Similarly, Petitioner asserts that another reference relied upon by Dr. Cockburn states that “[t]he same information should be presented in the same location on all screens’ in order to ‘facilitate recognition’ of a particular design element.” Reply 8 (citing Ex. 1021, 132). But, here too, Petitioner fails to explain why one of ordinary skill in the art would have understood Sakata II’s consistent display of the same group of characters in the same location to be insufficient to satisfy this rule. *See* PO Resp. 62–63. For instance, Sakata II describes:

In the present invention, special characters and symbols are divided into one [of] a plurality of similar character and symbol groups and allocated to the specific key positions And one character or symbol from the similar character and symbol group is displayed on the specific key position of the software keyboard.

Ex. 1004 ¶ 11. Sakata II continues, “only one character or symbol in each similar character and symbol group is displayed in the list display that constitutes the software keyboard, so the area that occupies the display screen of the software keyboard is not that large.” *Id.* at ¶ 13. Sakata II, thus, describes presenting access to the same group of characters consistently from the same location on the keyboard. Petitioner and Dr. Cockburn fail to explain persuasively why an ordinarily-skilled artisan nevertheless would have understood this consistent presentation to be inconsistent. *See* PO Resp. 62–63.

Accordingly, we are not persuaded by Petitioner’s argument that “general notions of consistency” support its obvious-to-try rationale and turn next to Petitioner’s efficiency argument.

Petitioner and Dr. Cockburn assert that Sakata II’s character substitution would create efficiency in some instances and inefficiency in other instances. *Compare* Pet. 40 (citing Ex. 1002 ¶ 145) (stating character substitution “would certainly improve efficiency in contexts where a user repeatedly enters the same characters, as the user would be able to employ ‘short presses’ to repeatedly enter the desired character”) *with id.* (citing Ex. 1002 ¶¶ 146, 177) (stating Sakata II “could, at times, promote inefficient character entry”). According to Petitioner, “[t]he point is a simple and obvious one to a [person of ordinary skill in the art]: sometimes character substitution helps, sometimes it does not.” Reply 13. Petitioner does not adduce sufficient evidence in support of this argument, despite asserting in its Petition that “[i]t is *well known* in the art that, *from a statistical standpoint*, certain characters are used far more often than others.” Pet. 41 (emphasis added). Instead, Petitioner contends in its Reply, without citation

in support, that “[a] statistical analysis is not needed to credit the truism that a [person of ordinary skill in the art] would recognize that certain characters are used more frequently than others.” Reply 15–16. Petitioner thus relies solely on the testimony of Dr. Cockburn to support its assertion that, because of a desire to increase efficiency, one would have been motivated to omit Sakata II’s character substitution and discount its explicit teaching that this substitution improves efficiency. *See* Pet. 40–42.

Patent Owner asserts, *inter alia*, that Petitioner’s reliance on Dr. Cockburn’s testimony is misplaced because his testimony represents only “his own personal, unsupported opinions regarding what a [person of ordinary skill in the art] might believe,” ungrounded in any analytical methods and predicated on misunderstandings of the Japanese characters appearing in Sakata II. PO Resp. 45–52.

Having considered the complete trial record, we determine Petitioner’s reliance on Dr. Cockburn’s testimony is insufficient to establish by a preponderance of the evidence that one of ordinary skill would have been motivated to try the proposed modification. Dr. Cockburn identifies two examples of characters in Sakata II that he contends an ordinarily skilled artisan would recognize as more frequently used than others, such that substituting out these characters would create inefficiency. Pet. 40–41 (citing Ex. 1002 ¶¶ 146, 178). In particular, Dr. Cockburn identifies the ‘?’ character as more frequently used than the ‘Γ’ character and the ‘①’ number character as more frequently used than the ‘⑨’ number character. Ex. 1002 ¶¶ 146, 178. Dr. Cockburn bases his testimony for both examples on “common sense.” *Id.* (“it would be apparent to the person of ordinary skill (and a matter of common sense) that the most frequently used number

would be a ‘(1)’); *see also* Ex. 2006, 221:25–222:16 (discussing his open-parenthesis example: “I think common sense is sufficient”).

Our reviewing court cautions that although “‘common sense’ can be invoked, even potentially to supply a limitation missing from the prior art, it must still be supported by evidence and a reasoned explanation.” *Arendi v. Apple*, 832 F.3d 1355, 1363 (Fed. Cir. 2016). The *Arendi* court continues:

In cases in which ‘common sense’ is used to supply a missing limitation, as distinct from a motivation to combine, moreover, our search for a reasoned basis for resort to common sense must be searching. And, this is particularly true where the missing limitation goes to the heart of an invention.

Arendi, 832 F.3d at 1363.

The *Arendi* court’s cautions are particularly salient in this proceeding. Here, Dr. Cockburn’s numerical and open-parenthesis examples are mere unsubstantiated testimony, not grounded in underlying facts or data. *See* Ex. 2006, 206:18–207:23; 208:9–211:3; *see also* Ex. 2005 ¶ 135 (Dr. Porter’s critique of Dr. Cockburn’s testimony). Such ipse dixit is insufficient to establish a preponderance of evidence. *Securus Techs. Inc. v. Glob. Tel*Link Corp.*, 701 F. App’x 971, 974–976 (Fed. Cir. 2017) (affirming the Board’s determination that conclusory testimony by an expert witness was insufficient to satisfy Petitioner’s burden of proving by a preponderance of the evidence that the skilled artisan would have modified the references as asserted.); *see also* 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). Further, Dr. Cockburn’s open-parenthesis example is predicated on a fundamental misunderstanding of the

characters about which he testifies. Sakata II describes the Japanese character ‘ 冂 ’ as a “left quotation mark;” however, Dr. Cockburn fails to recognize this explicit teaching and testifies that it “would be inefficient—and a waste of a user’s time—to change the displayed character on the input key associated with that character group to a ‘ 冂 ’.” Ex. 1002, ¶ 146; Ex. 1004 ¶ 64 (“[w]hen a user drags a left quotation mark ‘ 冂 ’ from this drag menu 23”); Fig. 10.

In light of the foregoing defects in Dr. Cockburn’s testimony, we determine Dr. Cockburn’s testimony on these two examples and his reliance on common sense is insufficient to establish by a preponderance of the evidence that one of ordinary skill would be motivated to try the proposed modification for reasons of increasing efficiency. *Securus Techs. Inc.*, 701 F. App’x at 974–976; 37 C.F.R. § 42.65(a). In particular, we find Dr. Cockburn’s testimony is insufficient to overcome Sakata II’s explicit teaching that its substitution improves efficiency. Ex. 1004 ¶ 51 (attributing improved efficiency to character substitution because “when the same special character or symbol is selected again, selective input can be carried out quickly without having to perform [the] dragging operation”). We, therefore, are not persuaded on the complete record by Petitioner’s argument that one of ordinary skill in the art would have been motivated by a desire to increase efficiency to try omitting Sakata II’s character substitution.

Accordingly, having considered the parties’ positions in light of the full trial record, we determine for the reasons set forth above that Petitioner has failed to show by a preponderance of the evidence that independent claim 1 and its dependent claims 9–12 are rendered obvious over Sakata II.

3. Analysis of Independent Claims 3 and 4 and Dependent Claims 5–8 and 13–16

Commensurate with the final limitation of claim 1, independent claim 3 recites “returning the keypad to the default state” and independent claim 4 recites “means for returning the keypad to the default state.” Ex. 1001, 7:34, 8:5. With respect to these limitations, Petitioner relies on the same arguments and testimony discussed above in the context of claim 1. Accordingly, having considered the parties’ positions in light of the full trial record, we determine for the reasons set forth above in the context of claim 1 that Petitioner has failed to show by a preponderance of the evidence that independent claim 3, and its dependent claims 13–16, as well as independent 4, and its dependent claims 5–8, are rendered obvious over Sakata II.

E. Asserted Obviousness of Claims 1 and 3–16 over Sakata II and Buxton

1. Overview of Buxton

Buxton is directed to a system and method for a graphical keyboard that “responds differently to different kinds of pen strokes.” Ex. 1006, Abst. Figure 15 of Buxton is reproduced below.

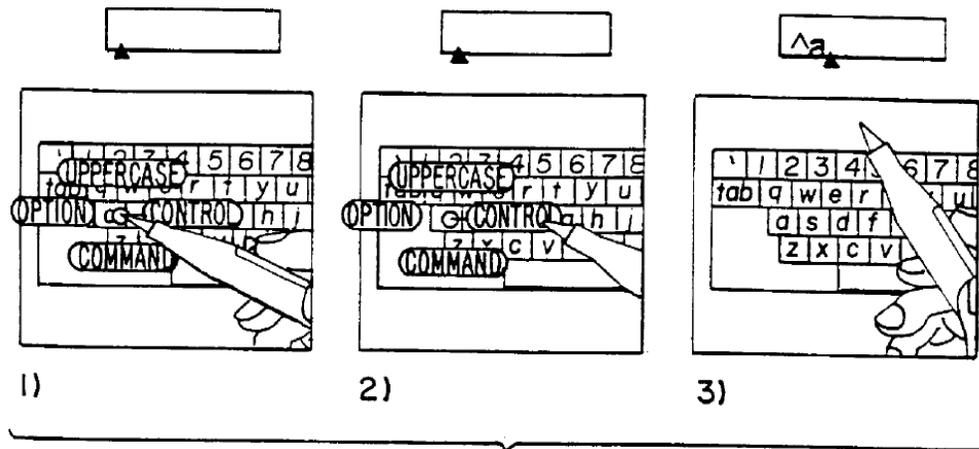


FIG. 15.

Figure 15 depicts the operation of the keyboard when the user presses and holds the pen on a key of the graphical keyboard, in this instance the key displaying the character ‘a’. *Id.* at 11:59–60. A radial menu comprising four choices of modifying functions appears on the screen, centered above the selected key. *Id.* at 11:64–12:2. The user moves the pen toward the desired modifying function and then lifts the pen off of the screen, thereby inputting the selected character and modifying function, in this case, ‘^a.’ *Id.* at 12:6–13. Thereafter, the “radial menu disappears, as does the key highlighting, leaving the keyboard image as it originally appeared.” *Id.* at 12:13–15.

2. Analysis of Claims 1 and 3–16

As an alternative ground, Petitioner contends that claims 1 and 3–16 are rendered obvious over the combination of Sakata II and Buxton. More specifically, Petitioner asserts that Buxton meets the limitation “returning the keypad to the default state,” as recited in the independent claims, because Buxton teaches that “upon entering a secondary character, ‘[t]he

radial menu disappears, as does the key highlighting, leaving the keyboard image as it originally appeared.” Pet. 67–68 (citing Ex. 1006, 12:13–15) (emphasis omitted). Petitioner contends that, in light of this disclosure in Buxton, one of ordinary skill in the art would have been motivated to implement Sakata II without its “extra step” of character substitution and thereby leaving the keyboard image as it originally appeared. *Id.* at 69 (citing Ex. 1002 ¶ 208). Relying on Dr. Cockburn’s testimony, Petitioner contends:

By following Buxton’s teachings that one should return the keyboard to its “original[],” state to promote efficiency, one could promote more efficient character entry in Sakata II because (1) doing so could retain a default display of the more frequently used characters in Sakata II (as discussed above), and (2) retaining a consistent display would ensure that the Sakata II interface remains familiar to the user, which would also promote input efficiency.

Id. at 69–70 (citing Ex. 1006, 24:37–42; Ex. 1002 ¶¶ 144–148, 171–181). With respect to consistency and familiarity, Dr. Cockburn and Petitioner assert that Buxton’s display of a familiar QWERTY keyboard and radial overlay “*allows a user to make use of existing knowledge of keyboard entry.*” Ex. 1002 ¶ 207; *see also* Pet. at 68–69.

Patent Owner contends that “Sakata II does not describe any particular ‘familiar’ keypad layout, or indicate that a particular character would be used more than others within the same character group across all users or situations.” Pet 35. Patent Owner further asserts that Dr. Cockburn fails to demonstrate knowledge of Japanese characters and keyboard layouts, and

adduces no evidence in support of his testimony regarding efficiency and consistency concerns. *Id.* at 35–39.

Having considered the complete trial record, we determine Petitioner has failed to show by a preponderance of the evidence that one of ordinary skill would have been motivated to modify Sakata II in light of Buxton. The teachings of Buxton upon which Petitioner and Dr. Cockburn rely demonstrate the disappearance of a radial menu after entry of character modifier. Pet. 67–68 (citing Ex. 1006, 12:13–15) (“upon entering a secondary character, ‘[t]he radial menu disappears, as does the key highlighting, leaving the keyboard image as it originally appeared”) (emphasis omitted). These teachings do not repair the deficiencies in Dr. Cockburn’s testimony regarding Sakata II’s consistency in design and efficiency obtained through character substitution, as discussed above. *See supra* Section II.D.2.

Regarding efficiency, Dr. Cockburn states one of ordinary skill in the art would “follow[] Buxton’s teachings that one should return the keyboard to its ‘original[],’ state to promote efficiency,” (Pet. 69–70; Ex. 1002 ¶¶ 144–148, 171–181), but fails to explain how or why Buxton’s disappearing radial menu would teach or suggest that certain Japanese characters are more frequently used than others such that continuing to display them instead of the most recently selected characters would improve efficiency, despite Sakata II’s teaching to the contrary. *See* Pet. 64–71; Reply 18–20. Indeed, Dr. Cockburn admitted during deposition that he is not familiar with Japanese characters or keyboard layouts. Ex. 2006, 107:24–108:12, 110:12–112:6, 112:20–113:5, 118:24–119:7, 120:7–11.

Petitioner and Dr. Cockburn’s reliance on Buxton to establish motivation based on a desire to improve efficiency, therefore, is unpersuasive.

Similarly, Petitioner and Dr. Cockburn assert that one of ordinary skill would understand Buxton to teach that “retaining a consistent display would ensure that the Sakata II interface remains familiar to the user,” (Pet. 69–70; Ex. 1002 ¶¶ 144–148, 171–181), but fail to explain why one of ordinary skill in the art would have understood Sakata II’s consistent display of the same group of characters in the same location to be inconsistent. *See* Pet. 64–71; Reply 18–20. As discussed above, Sakata II describes dividing special characters and symbols into groups and presenting access to each group consistently from the same location on the keyboard. Ex. 1004 ¶¶ 11–13. Further, Dr. Cockburn admits that he is unfamiliar with whether a standard or familiar keyboard existed for Japanese text entry, such that a user of Sakata II’s keyboard would be more familiar with a particular layout. *See* Ex. 2006, 107:24–108:12, 110:12–112:6, 112:20–113:5, 114:12–115:4, 120:7–11, 315:8–16. Petitioner and Dr. Cockburn’s reliance on Buxton to establish motivation based on a desire to improve user interface consistency, therefore, is unpersuasive.

Accordingly, having considered the parties’ positions in light of the full trial record, we determine for the reasons set forth above that Petitioner has failed to show by a preponderance of the evidence that independent claims 1, 3, and 4 as well as their dependent claims 5–12 are rendered obvious over Sakata II and Buxton.

IV. ORDER

It is, therefore,

ORDERED that Petitioner has not demonstrated by a preponderance of the evidence that claims 1 and 3–16 of US Patent RE44,913 are unpatentable; and

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

Case IPR2017-00386
Patent RE44,913

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